BEFORE THE

PUBLIC SERVICE COMMISSION OF WISCONSIN

Investigation Into Ameritech Wisconsin's Unbundled Network Elements	6720-TI-161

FINAL DECISION

This is a final decision in the investigation into Wisconsin Bell's (d/b/a Ameritech Wisconsin) Unbundled Network Elements (UNEs). UNEs are components of Ameritech Wisconsin's (Ameritech) network that it must offer to its competitors for their use. What UNEs Ameritech must offer and how those UNEs should be priced using forward-looking Total Element Long Run Incremental Cost (TELRIC) studies is the subject of this decision.

47 U.S.C. § 252 provides that states may determine just and reasonable rates for UNEs within interconnection agreements. The Commission has jurisdiction under Wis. Stat. § 196.199(2)(a) to approve and enforce interconnection agreements and "may do all things necessary and convenient to its jurisdiction." This order does not establish UNE prices themselves, but determines the details of a methodology that can be used to determine cost-based prices. These details are to be used as guidelines and must be considered by Commission appointed arbitration panels, but if necessary may be changed by the panel based on the facts and circumstances involved in a particular arbitration.

The U.S. Supreme Court has drawn a distinction between the act of setting rates and the act of designing a methodology for use in setting rates. In *AT&T Corp. v. Iowa Util. Bd.*,[1] the

[1] AT&T Corp. v. Iowa Util. Bd., 525 U.S. 366 (1999). (IUB2).

states argued that the Federal Communications Commission's (FCC's) pricing rules usurp the authority granted to states in 47 U.S.C. § 252(c) to establish rates. The Supreme Court found that the FCC's prescription, through a rule, of a requisite pricing methodology did not prevent states from establishing rates. "It is the states that will apply those standards and implement that methodology, determining the concrete result in particular circumstances."[2] It further stated that having entrusted state commissions with the job of establishing rates does not preclude the FCC from issuing rules to guide the state-commission judgments. In the same way, in this case the Commission is establishing guidelines for use by arbitration panels as they examine rates in arbitration cases.

The Commission orders Ameritech to offer certain UNE products and services, to rerun and file its TELRIC studies and resulting UNE rates, and to file draft tariffs all in accordance with this decision. The CLECs are also ordered to rerun and file their Collocation Cost Model (CCM) as adjusted by this decision.

A list of participating parties is attached hereto as Appendix A.

Introduction

On December 15, 1999, the Commission issued a Notice of Proceeding and Investigation and Assessment of Costs and Prehearing Conference. Pursuant to that Notice, a prehearing conference was held on January 27, 2000, for the purpose of identifying full parties and issues; and determining hearing and filing dates, among other things. Seven days of hearings were held from Monday, February 26, through Friday, March 2, and on the following Wednesday and

[2] *Id.* at 384.

Thursday, March 7 and 8, of 2001. Initial briefs were filed on or before June 1, 2001. Reply briefs were filed by July 13, 2001. The Commission also heard oral argument on December 7 and 10, 2001. At its open meetings of November 29, December 13 and 19, 2001, the Commission deliberated and directed its staff to draft an order consistent with its open meeting discussions.

Findings of Fact

Cost of Capital

1. It is reasonable to use 70 percent equity, 30 percent debt, 13 percent return on equity and 7.18 percent cost of debt to determine a forward-looking cost of capital for Ameritech's UNEs.

Joint and Common Costs

2. It is reasonable to use Ameritech's joint and common cost model, with adjustments, as the basis for determining a reasonable level of joint and common costs to be included in the cost of UNEs.

3. Reclassifying Wholesale Product Support costs to Network Support costs, using Ameritech's cost-based denominator, is a reasonable means to ensure that UNEs do not bear an unreasonable share of joint and common costs.

4. It is reasonable to use Ameritech's adjustments to remove nonregulated costs from the joint and common costs.

5. It is reasonable to apply the Competitive Local Exchange Carriers' (CLECs') adjustments for investment growth when determining a reasonable mark-up for joint and common costs.

6. It is not reasonable to use the CLECs' proposed efficiency adjustment when calculating a reasonable mark-up for joint and common costs.

7. It is not reasonable to use the CLECs' proposed adjustment to clearance accounts when calculating a reasonable mark-up for joint and common costs.

8. It is not reasonable to use the CLECs' proposed adjustment to Legal and External Relations costs when calculating a reasonable mark-up for joint and common costs.

Collocation

9. For Shared Cage Collocation, it is reasonable for the Commission to require Ameritech to provide collocation to a single CLEC requesting this form of collocation, to prorate costs so that the first collocator does not bear an unreasonable proportion of costs, and to deal directly with any collocator that occupies Shared Cage Collocation space.

10. It is reasonable for Shared Cage Collocation to be sold in increments of 25 square feet and to use an occupancy factor of 50 percent when developing reasonable forward-looking collocation costs.

11. It is reasonable for Cageless and Virtual Collocation to be sold in increments of 26.5 linear inch increments when developing reasonable forward-looking collocation costs.

12. It is reasonable to conclude that Adjacent Off Site Collocation is not a required form of collocation.

13. It is reasonable to require Ameritech to offer a definitive set of collocation rates, other than for Adjacent On-Site Collocation, based on average distances and average numbers of splices based on the CLECs' Model Central Office (CO).

14. It is reasonable to require Ameritech to offer standardized per foot and per splice charges for Adjacent On-Site Collocation.

15. It is reasonable to require Ameritech not to include the cost of DS1/DS3 repeaters when developing forward-looking collocation costs.

16. It is reasonable to require that equipment that can't be shared with Ameritech or that can't be used by subsequent occupants of collocation space be charged as nonrecurring costs, and that all other equipment be charged as monthly recurring costs.

17. It is reasonable to use Ameritech's activity times when developing forward-looking collocation costs.

18. It is reasonable to use Ameritech's materials prices when developing forward-looking collocation costs.

19. It is reasonable to require Ameritech to use the CLECs' costs and recurring charge treatment of Heating Ventilation and Air Conditioning (HVAC) when developing forward-looking collocation costs.

20. It is reasonable to use Ameritech's costs for the Battery Distribution Fuse Bay when developing forward-looking collocation costs.

21. It is reasonable to require Ameritech to use the CLECs' recurring charge treatment of Battery Distribution Fuse Bay (BDFB) costs.

22. It is reasonable to require Ameritech to prepare an analysis of the frequency with which each of its proposed security measures is necessary to accommodate collocators, and to develop forward-looking security costs that include a frequency of occurrence factor and that are divided among the average number of collocators in a CO.

23. It is reasonable to require Ameritech to provide a detailed breakdown showing the makeup of its site conditioning costs, to determine the frequency with which those detailed costs will be incurred, and to divide site conditioning costs among the average number of collocators in a CO.

24. It is reasonable to use Ameritech's electrical costs, updated for adjustments made to other parts of Ameritech's cost studies, when determining forward-looking collcation costs.

25. It is reasonable to assume that two out of four Caged Physical Collocation spaces will be occupied when determining forward-looking collocation costs.

26. It is reasonable to add 37.5 square feet to account for the quantity of common and support space needed to accommodate a 100 square foot collocation cage when determining forward looking collocation costs.

27. It is reasonable to use a riser fill factor that includes Ameritech and collocators sharing riser space, as developed in the Model CO, when determining forward looking collocation costs.

28. It is reasonable to require Ameritech to exclude site conditioning and cage surround costs when developing the cost for Cageless Collocation, but to include additional space for common area using the CLECs' increments for Cageless Collocation areas.

29. It is reasonable to use a footprint size of 10 square feet when developing forward-looking costs for Virtual Collocation.

30. It is not reasonable to require Ameritech to offer Digital Cross Connect service as a standard collocation option.

31. It is reasonable to prohibit Ameritech from reserving a right to charge for extraordinary collocation costs.

32. It is reasonable to require the Commission's adjustments to be incorporated into the CLECs' Collocation Cost Model.

Switch Vendor Contracts

33. It is reasonable to use the prices for growth and replacement lines that were negotiated in Ameritech's current contracts with its switch vendors.

34. It is not reasonable to use the blend of replacement lines and growth lines in Ameritech's contracts for costing purposes; instead, a 70 percent replacement lines and 30 percent growth lines blend should be used.

35. It is reasonable to use the order interval for Lucent switches agreed to by the parties, and the order intervals used by Ameritech for Nortel and Siemens switches.

36. It is reasonable to use the blend of switch types and manufacturers used by Ameritech when developing the cost for unbundled switching and for transport.

37. It is reasonable to use the same blend of 50 percent digital lines and 50 percent analog lines that was used for determining the cost of unbundled loops when determining the cost of switching.

Switch Cost Model Inputs

38. It is reasonable to use Ameritech's fill factors for analog lines and for trunks, but the fill factor for digital lines should be 80 percent.

39. It is reasonable to base the depreciation rate for Ameritech's switches on an average service life of 12 years.

40. A reasonable maintenance expense factor to use for switching is Ameritech's 1998 3-year average maintenance expense factor reduced by 4 percent to account for productivity increases and inflation.

41. It is reasonable to assume that right-to-use fees would be assessed on the 70 percent of Ameritech's lines that the Commission determined to be replacement lines, and to use Ameritech's method of averaging the fees over all lines.

42. It is reasonable for Ameritech to levelize its revenue ready fees so that the same fee applies to each line no matter when it is installed.

43. It reasonable to assume that Ameritech will incur costs to obtain new switches beyond the costs that are included in its vendor contract payments. Applying the in-plant factor is a reasonable method to ensure those costs are included in the cost study.

Rate Design for Unbundled Switching

44. It is reasonable to recover the costs to provide the following functions in the per-line-port rate for unbundled switching: (1) main distribution frame termination, (2) telephone numbering, (3) call intercept, (4) directories, (5) methods and procedures development, (6) report processing, and (7) billing systems development, provided Ameritech revises its costs to reflect the changes to its cost model that are ordered herein.

45. Ameritech appropriately modeled the costs difference between different types of ports.

46. It is reasonable to use the costs developed by Ameritech for its different types of switch ports, adjusted by the same cost factors applied to the cost of a basic port.

47. It is reasonable for Ameritech to recover all of its costs to provide unbundled switching through a flat per-line rate.

Transport

48. It is reasonable to use the same general cost factors for transport that were approved for determining the cost of unbundled switching and loops, and to calculate the costs for direct transport, shared transport and dark fiber (except for the electronics for dark fiber) in the same manner.

49. The impact of including blended traffic in the calculation of average call distances for shared transport does not have a material impact on the per-minute rate, and the average call distances used by Ameritech are reasonable.

50. It is reasonable to require Ameritech to make its dark fiber available to competitors under the terms approved by the Commission in Ameritech's Operations Support Systems (OSS) Docket, 6720-TI-160.

Reciprocal Compensation

51. It is reasonable to use the bifurcated reciprocal compensation costs developed by Ameritech, as adjusted for the cost factors found to be appropriate for unbundled switching.

52. It is reasonable to use the usage-based costs that Ameritech isolated in its switching cost study, adjusted for the cost factors contained herein, when establishing the duration charge.

53. It is reasonable to recover the costs for non-conversation time once per call attempt in the charge for call setup, and to separate non-conversation time from conversation time using the ratio from Ameritech's cost separation study.

Project Pronto

54. No evidence was presented that Project Pronto elements are proprietary to Ameritech.

55. The Project Pronto, Next Generation Digital Loop Carrier (NGDLC) loop architecture, which is designed to provide advanced services, replaces traditional copper loops. Project Pronto is not an overlay network.

56. Ameritech initiated its Project Pronto network initiative specifically to overcome limitations inherent in the ability of copper loops to support advanced services to the majority of its customer base.

57. Exhibit 32 demonstrates the significant efficiencies that Ameritech expects to obtain by replacing copper with fiber in its network and supports the conclusion that the existing copper loop network is insufficient to provide Digital Subscriber Loop (DSL) services to the mass markets.

58. Project Pronto will extend the market reach of DSL. Ameritech will be able to provide DSL service to an additional 20 million customers throughout the 13-state SBC territory that it cannot serve without Project Pronto.

59. Ameritech will have an incentive to retire or simply not maintain the copper plant because it is inefficient to maintain two loop networks simultaneously.

60. The Project Pronto Waiver Order restrictions on retiring copper plant expire in 2003.

61. It is technically feasible to provision voice only loops over the Project Pronto architecture and Ameritech plans to do so in certain situations. Project Pronto is a replacement network that Ameritech is moving all of its voice service to over time.

62. The purpose of Project Pronto investments is to realize the efficiencies of combining voice and data services over the same copper loops, and dividing voice and data closer to the customer's premises for transmission to the CO via fiber optic lines.

63. Ameritech's Broadband Service Agreement as proposed by Ameritech is a voluntary stand-alone service agreement not offered in the context of an Interconnection Agreement negotiated under 47 U.S.C. §§ 251 and 252(c)(2).

64. Availability of a service like the Broadband Service is not a viable substitute for providing the service as a UNE.

65. Using homerun copper loops to provide DSL services to CLEC customers has significant and damaging limitations.

66. Potential interference issues make some homerun copper loops that were previously acceptable to carry CLEC xDSL signals, unusable for that function. Using homerun copper loops, CLECs will incur higher costs, experience lower or less consistent levels of quality, have less ubiquitous access to similar facilities, and encounter more troublesome operational issues.

67. Collocation by CLECs at remote terminals (RTs) is costly and time consuming and may present difficulties with space considerations, availability of dark fiber, and completing

an engineered controlled splice (ECS)[3]. All of these processes involve individual case basis pricing and time frames for completion that add uncertainty and costs for the CLECs.

68. Based on Sprint's experience in collocating a Digital Subscriber Line Access Multipliers (DSLAM) at a remote terminal (RT) in Kansas, it could cost Sprint more than $22 million to collocate only at the currently installed Project Pronto RTs in Wisconsin.

69. Unbundling a Broadband end-to-end UNE is operationally practical.

70. There does not appear to be an accessible terminal at which to access a Project Pronto subloop.

71. The fulfillment of Ameritech's commitments is critical for CLECs to successfully make use of the Project Pronto UNE.

72. Conventional DSLAM collocation at an RT through an ECS is less timely and more expensive than the kind of DSLAM functionality Ameritech provides to itself.

73. The issue of who uses packet switching and where has been blurred by spreading the DSLAM functionality between the RT and the CO. However, in some manner Ameritech is able to offer its Broadband Service Offering which uses packet switching.

74. It is reasonable to require that adjustments made in this order to the loop and subloop TELRIC cost studies should apply equally to the costing of the end-to-end Project Pronto UNE.

75. Using all copper loop, CLECs will experience higher costs, lower and less consistent levels of quality, have less ubiquitous access to customers, and provide more troublesome operational issues.

[3] In the record, this splice is interchangeably referred to as an engineering controlled splice or an engineered controlled splice.

High Frequency Portion of the Loop

76. It is reasonable for Ameritech to provide the high frequency portion of the loop High Frequency Portion of the Loop (HFPL) as an UNE at no cost.

77. It is reasonable to apply all of the adjustments the Commission approved for Ameritech's nonrecurring cost study to the calculation of the nonrecurring cost to provide access to the HFPL, including incorporating a ratio of line splitters on the main distribution frame (MDF) that corresponds to the ratio of Common Systems Main Interconnect (COSMIC) frames used in Ameritech's COs.

Line Splitters

78. It is not reasonable to require Ameritech to provide splitters on other than a line-at-a-time basis.

79. It is not reasonable for the Commission to require Ameritech to place line splitters on the MDF, or to price line splitters based on the assumption that all line splitters are located on the MDF.

80. Where COSMIC frames are deployed in the CO, significant economic and engineering efficiencies are gained by mounting line splitters on the MDF.

81. It is reasonable to require that Ameritech's cost study use the lower-cost MDF placement in COs where COSMIC frames are deployed and incorporate those lower costs into its overall line splitter placement cost study.

82. It is reasonable to use the same fill factor for line splitting that is used for loop electronics.

83. It is reasonable to require Ameritech to provide additional cost information.

Line Sharing Over Fiber

84. It is reasonable to require Ameritech to, where technically feasible, provide for CLEC access to fiber feeder subloop transmission from the CO to the RT where the CLEC has collocated its DSLAMs at or near an RT through an ECS.

IDLC/UDLC

85. It is reasonable to assume and use equal proportions (i.e., 50 percent each) of integrated digital loop carrier (IDLC) and universal digital loop carrier (UDLC)when developing the cost of unbundled loops.

Subloop Elements

86. It is reasonable to require that the adjustments the Commission makes to Ameritech's unbundled loop cost study must also be applied to Ameritech's subloop costing.

87. No subloop elements are required for the purpose of unbundling Project Pronto as the Commission determines that Ameritech should only be required to unbundle a Project Pronto loop as an end-to-end UNE.

88. Ameritech's subloop offerings sufficiently allow CLECs to interconnect to, and offer competitive services in, multiple-dwelling units (MDUs) and campus-style environments.

Fill Factors

89. It is reasonable to use the CLECs' fill factors in determining unbundled loop costs.

Material Cost Adjustments

90. It is reasonable to require Ameritech to update its loop electronics costs to reflect the discounts it has actually achieved under the SBC November 2000 contract.

91. Ameritech's use of limited installation factors to make Alcatel DLC units ready for service are reasonable, appropriately permitting Ameritech to recover its actually incurred costs, and not resulting in double recovery of installation costs.

92. It is reasonable to use Ameritech's inventory factors.

93. The assumption of placing only 26-gauge copper cable, as used previously in Ameritech's cost studies for Wisconsin and other states, is the more reasonable TELRIC study assumption.

94. It is reasonable to not make an adjustment to the $0.05 per line amount of billing expenses included as an "other expense."

Maintenance Factor

95. It is reasonable to use Ameritech's labor inflation rates when computing the maintenance factor.

96. It is reasonable to use a 3 percent productivity offset when computing the maintenance factor.

97. It is not reasonable to add line growth when computing the maintenance factor.

98. It is not reasonable to forecast declining maintenance costs based on 1990-1999 accounting data as proposed by the CLECs.

99. It is reasonable to make the CLECs' adjustment that removes maintenance expenses in proportion to the amount of plant that is fully depreciated.

Depreciation

100. It is reasonable to use the longest lives in the depreciation ranges approved by the Commission in docket no. 05-DT-104 for plant that falls in cable and wire accounts.

Miscellaneous Uncontested Loop Costing Issues

101. It is reasonable to use Ameritech's fiber/copper cross-over point of 6,000 feet in a forward-looking design of fiber loop facilities.

102. The proportions of aerial, underground, and buried cable used in Ameritech's cost study are reasonable.

103. Ameritech's Net Rent Revenue adjustment is a reasonable method to allocate pole and conduit costs between Ameritech and third parties.

Line Conditioning Charges

104. It is reasonable for Ameritech to assess a separate charge for line conditioning.

105. It is reasonable to recover line conditioning costs over time as conditioned loops will be DSL capable over their useful lives. A five year time period is reasonable for developing such monthly recurring charges.

106. It is not reasonable to allocate line conditioning costs to voice grade loops. It is reasonable for a line conditioning charge to apply to all orders of DSL capable loops.

107. It is reasonable to determine line conditioning charges based on Ameritech's actual average costs and to reflect the actual frequency with which line conditioning has been necessary for orders of DSL capable loops.

Loop Qualification

108. It is reasonable to require Ameritech to file cost studies on loop qualification costs and explain the basis for developing forward-looking costs before assessing any charge for this service.

IDLC Conversion Charges

109. It is not reasonable to assume IDLC conversion costs are included in TELRIC loop rates. It is reasonable for Ameritech to recover the cost of IDLC conversions in a separate charge.

110. It is reasonable for IDLC conversion costs to be collected as monthly recurring charges.

111. It is reasonable to require Ameritech to develop monthly recurring charges for IDLC conversions using TELRIC principles based on total demand, and to use an average cost based on its actual historical experience with IDLC conversions.

112. It is reasonable to require that the monthly recurring charge for IDLC conversions be multiplied by one percent and added to the cost of all unbundled loops so all users of unbundled loops share equally in IDLC conversion costs.

Nonrecurring Costs

113. It is consistent with Total Element Long Run Incremental Cost (TELRIC) principles to base Nonrecurring Costs (NRCs) the forward-looking systems an efficient provider can reasonably implement using currently available technology.

114. Ameritech's activity times are reasonable to use when developing forward-looking NRCs.

115. It is reasonable that there will be different levels of fall out at different stages in the ordering and provisioning processes.

116. It is reasonable to make a distinction between simple and complex services in determining reasonable forward-looking initial fall out rates. It is reasonable for the Commission

to classify Digital Service 0 (DS0) as a simple product and Digital Service 1 (DS1) and Digital Service 3 (DS3) as complex products.

117. It is reasonable to use a 2 percent fall-out rate for the initial receipt of DS0 orders both in combination and not in combination and to use Ameritech's confidential fall-out rates for the initial receipt of DS1 and DS3 orders in developing forward-looking NRCs.

118. It is reasonable to use the cost of processing a single order in determining the forward-looking cost of ordering Unbundled Network Element Platform (UNE-P) services.

119. For a stand alone unbundled loop order, it is reasonable to use 100 percent manual CO cross connects in determining forward looking NRCs, and it is reasonable to use 2 percent manual cross connects for determining the forward-looking NRCs for provisioning UNE-P.

120. It is reasonable to use an assumption of 95 percent Dedicated Inside Plant and Dedicated Outside Plant (DIP and DOP) with no field work necessary where DIP and DOP is applicable in developing forward-looking NRCs.

121. It is reasonable to require a separate rate for migrations versus initial installations and not to include design costs for migrations in developing forward-looking NRCs.

122. It is reasonable that Ameritech's cost study should be revised to reflect an achievable level of electronic processing for transport by incorporating the extent to which Ameritech has COSMIC frames in its COs when developing its forward looking NRCs for transport.

123. It is reasonable to use Ameritech's proposed confidential number of jobs per visit in determining forward looking NRCs.

124. It is reasonable to assume computer service order processing costs are included in the mark-up for joint and common costs in determining forward looking NRCs.

125. It is reasonable to assume one time computer expenses are included in the mark-up for joint and common costs in determining forward looking NRCs.

126. It is reasonable to collect disconnection charges only at the time of disconnection based on disconnections using electronic processing.

127. It is not reasonable for Ameritech to impose the three additional charges, administrative charge, CO connection charge, and customer connection charge for unbundled loops.

128. Ameritech's DS0, DS1, and DS3 service categories are reasonable in determining NRCs.

129. It is reasonable to require Ameritech to create a different NRC for UNE-P than for stand-alone unbundled loops.

130. It is reasonable to require Ameritech to create different rates for migrations from new installations.

131. It is reasonable to require Ameritech to incorporate the Commission's adjustments into Ameritech's nonrecurring cost model.

Implementation Issues

132. It is reasonable for Ameritech to offer certain UNE products and services as set forth in this decision.

133. It is reasonable for Ameritech to incrementally adjust, rerun, and file its TELRIC studies and resulting UNE rates consistent with this decision within 60 days of its issuance.

Ameritech should simultaneously serve the parties with its compliance filing, subject to applicable confidentiality agreements between the parties.

134. It is reasonable for Ameritech to provide the CLECs with revised collocation data within 20 days of the issuance of this decision. It is reasonable for the CLECs to rerun and file their Collocation Cost Model (CCM) as adjusted, within 20 days thereafter. The CLECs should simultaneously serve the parties with its compliance filing, subject to applicable confidentiality agreements between the parties.

135. It is reasonable for Ameritech to file draft UNE tariffs consistent with this decision within 60 days of its issuance.

Conclusions of Law

1. The Commission has jurisdiction to issue this order under Wis. Stat. §§ 196.02(1) and (7), 196.03, 196.04, 196.06, 196.196, 196.199, 196.20, 196.204(3), 196.219, 196.28, 196.37(2), 196.395, and other provisions of Wis. Stat. chs. 196 and 227, as may be pertinent hereto and 47 U.S.C. §§ 251, 252, 253(b), 261(b)(c), and any other provisions of 47 U.S.C. § 251 *et.seq.* as may be pertinent hereto.

2. What the CLECs describe as "Adjacent Off-Site Collocation" is not a required form of collocation under 47 U.S.C. § 251(c)(6).

3. The definition of an unbundled loop, as described in the FCC's *Line Sharing Reconsideration Order*, does not require the use of a dedicated physical path.

4. This Commission has the authority to order the unbundling of Project Pronto per Wis. Stat. § 196.219(3)(f).

5. The *UNE Remand Order* gives the Commission the authority to unbundle network elements using the framework established in 47 U.S.C. § 251 and the FCC rules.

6. The *Project Pronto Waiver Order* did not include a determination regarding Ameritech's unbundling obligations with respect to advanced data services.

7. The necessary standard under 47 U.S.C.§ 251(d)(2)(B) does not apply here because no evidence was presented that the Project Pronto network elements are proprietary.

8. Ameritech's Broadband Service Offering does not provide the CLECs with an ability to offer DSL services from a practical, economic and operational perspective.

9. The option provided by collocation of a DSLAM through an ECS will impair the CLECs within the meaning of § 251(d)(2) due to excessive costs, delay in time to market, uncertainty whether all facilities needed will be available, and not providing CLECs an ability to replicate Ameritech's ubiquitous network for advanced services.

10. CLECs are "impaired" within the meaning of § 251(d)(2), if CLECs are relegated to using only Ameritech's proposed offerings.

11. Even if the packet switching conditions under 47 C.F.R. § 51.319 are not satisfied, CLECs are impaired without access to the Project Pronto loops. The alternatives offered by Ameritech, the Broadband Offering, use of the existing copper network, collocation of DSLAMs through an Engineered Controlled Splice (ECS), and building their own facilities do not relieve CLECs of the material diminishment to CLECs ability to provision the services they seek to offer.

12. A data loop falls equally under the unbundling obligations as a voice loop.

13. In this case, the FCC's four-point analysis provided in 47 C.F.R. § 51.319 is not dispositive when determining if unbundling of packet switching (i.e., Project Pronto) is required.

14. Additional unbundling is consistent with the factors in Wis. Stat. § 196.03(6).

15. Unbundling Project Pronto serves the public interest and promotes competition by facilitating the provision of advanced services by CLECs who would otherwise be impaired without access to these facilities.

Opinion

Pricing Standards

47 U.S.C. § 252(d)[4] requires that prices for network elements be based on cost and provides that the cost may include a reasonable profit. 47 C.F.R. § 51.503[5] requires that prices be based on a forward-looking, cost-based pricing methodology. 47 C.F.R. § 51.505[6] states that the forward-looking economic cost of an element is the sum of the Total Element Long Run Incremental Cost (TELRIC) and a reasonable allocation of forward-looking joint and common

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[4] 47 U.S.C. § 252(d) provides in pertinent part:

(d) Pricing standards.

(1) Interconnection and network element charges. Determinations by a State commission of the just and reasonable rate for... network elements…

(A) shall be--

(i) based on the cost...of providing the…network element…, and

(ii) nondiscriminatory, and

(B) may include a reasonable profit.

[5] 47 C.F.R. § 51.503 provides in pertinent part:

…

(b) An incumbent LEC's rates for each element it offers shall comply with the rate structure rules set forth in §§ 51.507 and 51.509, and shall be established, at the election of the state commission --

(1) Pursuant to the forward-looking economic cost-based pricing methodology set forth in §§ 51.505 and 51.511…

[6] 47 C.F.R. § 51.505 provides in pertinent part:

(a) In general. The forward-looking economic cost of an element equals the sum of:

(1) The total element long-run incremental cost of the element, as described in paragraph (b); and

(2) A reasonable allocation of forward-looking common costs, as described in paragraph (c).

costs. The FCC's Order, *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, FCC 96-325 rel. (Aug. 8, 1996) *(Local Competition Order), (CC Docket Nos. 96-98 and 95-185)* details the principles of TELRIC pricing.

In selecting TELRIC as a pricing methodology to implement section 252(d), the FCC determined that forward-looking, economic costs best replicate, to the extent possible, the conditions of a competitive market.[7] Because a pricing methodology based on forward-looking costs simulates the conditions in a competitive marketplace, it allows the carrier purchasing UNEs to compete effectively, which should drive retail prices to their efficient levels.

47 C.F.R. § 51.505(b)(1) states that in determining TELRIC, the cost should be measured "based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the incumbent LEC's wire centers." While the Eighth Circuit Court of Appeals vacated this rule,[8] it later stayed that action (leaving the rule in effect) pending review by the U.S. Supreme Court. The Eighth Circuit did affirm the use of a forward-looking pricing methodology rather than one that considers embedded costs.

The requirement to use forward-looking costs is reflected in the "incremental cost" aspect of the TELRIC standard. Incremental costs are additional costs. Incremental costs are costs that would be incurred to add equipment today and are not embedded historical costs. This pricing method reflects the need to achieve a level of cost efficiency that a competitive market would demand from a provider to achieve competitive prices today.

[7] Local Competition Order at par. 679.

[8] *Iowa Utilities Board v. FCC*, 219 F.3d 744, (8th Cir. 2000), *certiorari granted*, 121 S. Ct. 877 (2001). (*IUB*3).

Accordingly, in applying TELRIC, it is reasonable to base costs on equipment and systems an efficient provider can reasonably implement using currently available technology. This standard is also consistent with the Wisconsin definition of total service long run incremental cost (TSLRIC), which is a pricing method similar to TELRIC. State law says, "[I]n [Chapter 196], total service long-run incremental cost is calculated as the total forward-looking cost, using least cost technology that is reasonably implementable based on currently available technology."[9] This standard is based on forward-looking, achievable costs based on currently available technology.

To reflect the "Total" aspect of TELRIC, costs are based on the efficiency of building for the entire network demand today. By developing costs based on the amount of equipment needed to serve the total network demand today, the economies of scale in the telecommunications industry are captured in the development of costs.

To reflect the "Long-Run" aspect of TELRIC, costs are developed based on the assumption that all equipment that can be filled to an exhaust point will need to be replaced in the long run. Accordingly, "cost" includes all of the equipment that will need to be replaced in the long run. So even when equipment has a life of greater than one year, it is included in the development of incremental costs. As TELRIC includes equipment that has a life of greater than one year, it requires the inclusion of a cost of capital to support this investment. The cost of capital component provides for a reasonable profit otherwise known as the return on investment.

The "Element" aspect of the TELRIC reflects the FCC's determination that the standard is used to price unbundled network elements (UNEs). It is not the cost of a service, but reflects

[9] Wis. Stat. § 196.015(2).

the cost of elements of a telecommunications network that are put together to provide telecommunications services.

The FCC also determined that a reasonable mark-up for joint and common costs should be included in TELRIC costs. Even though network elements are priced based on incremental costs, joint and common costs, like supervision and general and administrative costs, will also be incurred. The FCC requires that UNEs not bear an unreasonable proportion of joint and common costs.[10]

These general pricing standards are supplemented in various sections of this order to reflect their application to particular types of costs. While all parties agree that TELRIC is the pricing standard to apply, the parties have differing interpretations as to the proper implementation of those standards. These differing interpretations are discussed in the separate sections of this order.

Cost of Capital

TELRIC pricing standards permit Ameritech to recover a return on its capital investment.[11] The cost of capital is made up of four components. These components include the relative proportions of debt and equity, together referred to as the capital structure; and the cost rates for debt and equity. The weighted average of these four components equals the cost of capital.[12]

[10] 47 C.F.R. § 51.505(c)(2)(i); *Local Competition Order* at pars. 694 and 696.

[11] 47 U.S.C. § 252(d)(1); *Local Competition Order* at par. 673.

[12] Mathematically, the weighted cost of capital equals the proportion of equity in the capital structure times the equity rate plus the proportion of debt in the capital structure times the debt rate.

Ameritech proposed a 13 percent cost of equity and a 7.18 percent cost of debt. These cost rates were uncontested and are adopted in this order by the Commission. The capital structure, i.e., the relative proportions of debt and equity, is addressed below.

Using data from Standard and Poor's Corporation, Ameritech presented a study that developed an estimate of the "average market value" capital structure for a group of local exchange carriers (including SBC Communications, Inc., SBC). This study multiplies the current share price for SBC's stock and the other publicly traded companies in the group by the number of outstanding shares to compute a market value (in dollars) for equity capital. This resulting equity market value was greater than the equity book value for each of the companies in the study. Ameritech argued that this method develops a forward-looking cost of equity as it represents the price an investor would pay today to acquire equity in one of these companies. Based on this analysis, Ameritech proposed a market value capital structure of 86 percent equity and 14 percent debt.

The CLECs did not present any testimony on cost of capital or discuss this issue in their briefs. Staff presented an option in which the proportions of debt and equity would reflect the levels of debt and equity that a stand-alone provider[13] of UNEs would likely have. Staff testified that Ameritech's proposed capital structure likely reflects a higher cost of capital given the companies that Ameritech used in its analysis. These companies were not stand-alone companies, rather companies that offer a variety of products and services in addition to wholesale UNEs. Consequently, these companies are likely to have higher risk profiles, which correspond to higher levels of equity in their capital structures. Since equity is more costly than

[13] Theoretically, a stand-alone UNE provider would be a separate wholesale telecommunications company. Such a company, if it existed, would not offer retail or nonregulated telecommunications products and services.

debt, higher levels of equity would increase the overall cost of capital and inflate the cost of UNEs. To address this concern, staff presented an alternative method for determining the appropriate capital structure using interest coverage levels. This method yields a capital structure of 55 percent equity and 45 percent debt.

The Commission rejects both Ameritech's proposal and staff's option as discussed above, but instead establishes a level of equity commensurate with the risk of providing UNEs in a forward-looking environment. UNEs at this time are essentially bottleneck-controlled facilities, and not yet subject to significant competition. Therefore, the capital structure should reflect, to some degree, a traditional utility capital structure. However, at the same time, the Commission is concerned that the cost of capital for UNEs should reflect a forward-looking cost of capital. The Commission makes similar decisions in this case which assumes Ameritech will achieve efficiencies consistent with a competitive marketplace. This assumption also implies a greater level of risk than a monopoly provider under tradition rate-of-return regulation. Accordingly, the Commission determined that it is reasonable to use a capital structure that falls between the market value equity analysis used by Ameritech and the stand-alone utility capital structure analysis offered by staff. Accordingly, the Commission determined that 70 percent equity and 30 percent debt is a reasonable forward-looking capital structure to use when determining the capital cost component for UNE prices.

Joint and Common Costs

Pricing Standard. The FCC has recognized that each product or service causes both direct incremental costs – *i.e.*, costs which the firm would avoid entirely if it ceased producing the product or service in question; and indirect, or "joint and common costs" – *i.e.*, "costs that

are incurred in connection with the production of multiple products and services."[14] Both types of costs must be recovered if *any* firm is to remain in business. Specifically, the FCC has recognized that "setting the price of each discrete network element based solely on the forward-looking incremental costs directly attributable to the production of individual elements will not recover the total forward-looking costs of operating the wholesale network."[15] Accordingly, in addition to the TELRIC cost for each network element, the FCC has mandated that, pursuant to 47 U.S.C. § 252(d)(1), the price for each element "*shall*" include "a reasonable measure of [joint and common] costs."[16]

With regard to the allocation of joint and common costs, the FCC also states that "[o]ne reasonable allocation method would be to allocate common costs using a fixed allocator, such as a percentage mark-up over the directly attributable forward-looking costs."[17] Alternatively, the FCC states that "[w]e conclude that a second reasonable allocation method would allocate only a relatively small share of common costs to certain critical network elements, such as the local loop and collocation, that are most difficult for entrants to replicate promptly (i.e., bottleneck facilities). Allocation of common costs on this basis ensures that the prices of network elements that are least likely to be subject to competition are not artificially inflated by a large allocation of common costs."[18] The FCC makes clear that UNEs should not bear a disproportionate share of joint and common costs. Accordingly, the Commission must include a reasonable amount of

[14] *Local Competition Order* at pars. 691 and 676.

[15] *Id.* at par. 694.

[16] *Id.* (emphasis added).

[17] *Id.* at par. 696.

[18] *Id.*

efficiently incurred joint and common costs in the development of the costs of UNEs, and must also not allocate an unreasonable proportion of joint and common costs to any individual UNE.

Ameritech's Model. Ameritech presented a new and different model for determining joint and common costs from the models it had previously presented in cost and arbitration proceedings. To identify joint and common costs, Ameritech's new model starts with 1998 accounting data from the Uniform System of Accounts (USOA). Ameritech then made adjustments to expenses to remove amounts that should not be included in joint and common costs applicable to UNEs, and to adjust for inflation and productivity to reflect forward-looking costs. Finally, the model allocates these joint and common costs by dividing them by TELRIC plant related expenses to compute a mark-up on TELRIC costs.

Ameritech's model developed four categories of costs: (1) Product Support, which relates to the provision and development of specific products and services; (2) Network Support, which includes account expenses required for the operation of the telecommunications network itself; (3) General Support, which consists primarily of accounts that are asset related, but serve a secondary, support role to the main network investments; and (4) Corporate Overhead expenses, which help Ameritech operate efficiently as a whole. For each of these four categories, the model developed a ratio, consisting of a numerator and a denominator from which a mark-up was computed for each category of cost. The mark-ups for each of the four major expense categories were summed up to compute a cumulative joint and common cost mark-up factor.

In determining joint and common costs, Ameritech's new model is theoretically appealing in that it is based on verifiable accounting data. However, caution is needed when using accounting data to guard against overstating expenses as all costs are included in the

specified accounts under USOA. Certain costs are specifically excluded, as it would be inappropriate to include those costs in the joint and common cost study for UNE prices. The CLECs referred to this method as a "top down" approach as costs are included unless specifically excluded. The CLECs asserted that a "bottoms up" approach should be used where Ameritech should prove the necessity of all costs. The CLECs raised concerns that in using a "top down" approach, Ameritech would not make the appropriate adjustments to remove one-time expenses, to remove unregulated expenses, and to remove costs that were already included in the development of the TELRIC rates upon which the mark-up is added. The CLECs questioned whether there was sufficient support to determine if the necessary adjustments had been made. The CLECs also were concerned that by using actual data, Ameritech assumes that its current operations are as efficient as a forward-looking approach would yield. However, a "bottoms up" approach was not presented. Instead, only adjustments to the Ameritech model were proposed.

The Commission concludes that the Ameritech model should be used as it was the only model presented. The CLECs proposed various adjustments to Ameritech's model. In addition, staff presented different options for the Commission's consideration. The Commission determined that it is reasonable to evaluate the proposed adjustments to the Ameritech model and other options presented as a basis for determining a reasonable level of joint and common costs to be included in the cost of UNEs.

Product Support. Ameritech's model produces a Wholesale Product Support mark-up that is approximately equal to the Retail Product Support mark-up. The CLECs asserted that Ameritech has not made a reasonable allocation between retail and wholesale services for

product support costs. The CLECs proposed an allocation of product support costs of 5 percent to wholesale and 95 percent to retail. Staff presented an option of reclassifying Wholesale Product Support costs to the Network Support category instead of the Wholesale Product Support category, based on the descriptions of the kinds of costs Ameritech included in Wholesale Product Support. The Commission determined that the CLECs' proposed 95 percent retail and 5 percent wholesale allocation was arbitrary. As explained below, the Commission accepts the staff reclassification from Product Support to Network Support as a reasonable means of allocating these costs. However, the Commission finds that use of Ameritech's cost based denominator is more reasonable than use of the sales based denominator presented by staff because UNE sales could be low even though costs are high.

Ameritech asserted it incurs UNE-specific product management costs, and that those costs may substantially exceed those associated with retail products. The following are some of the costs included by Ameritech in Wholesale Product Support: (1) product design; (2) implementation of FCC rules and nondiscrimination requirements; (3) negotiations and additional arbitrations with requesting carriers; (4) renegotiation of existing interconnection agreements; (5) complaint cases regarding Ameritech performance under such agreements; and (6) cost dockets such as this one regarding UNEs. The Subject Matter Experts' (SMEs) time in this docket is an example of a cost Ameritech considers to be part of Wholesale Product Support. Ameritech asserts that it would not incur these costs if it were not required to provide UNEs, and therefore, that these costs should be directly assigned to UNEs on a cost causative basis.

The CLECs asserted that wholesale services commonly, and by their nature, should generate fewer overhead costs (such as product support, sales, marketing, etc.) per unit than their

retail counterpart. Therefore, one would expect the product support cost to be less per unit for wholesale service than for retail service. Further, 47 C.F.R. § 51.607[19] explicitly recognizes that wholesale costs should be lower than retail costs through their requirement that avoided costs be removed when determining wholesale rates. In the wholesale environment, the customers are more sophisticated and already know exactly what they need. They do not need or benefit from much of what Ameritech considers to be product support. In addition, CLECs would be put at a competitive disadvantage because of these unreasonably high product support expenses charged by Ameritech. CLECs will incur their own product support expenses as a result of their retail sales efforts. It would be very difficult for CLECs to price their services competitively if they must recover their own legitimate retail product support expenses, and also try to recover the unreasonably high wholesale product support charges imposed by Ameritech.

To remedy this problem, the CLECs recommended a 5 percent wholesale and 95 percent retail allocation in Ameritech's Product Support categories. The CLECs asserted that this allocation is conservative for two reasons: (1) unbundled services are highly unlikely to comprise more than 5 percent of the products Ameritech sells, and (2) the characteristics of wholesale services dictate that wholesale services should have relatively lower costs than retail service. While the Commission agrees that Ameritech's treatment of Wholesale Product Support costs is not reasonable, the Commission does not agree with the CLECs that the Commission can

[19] 47 C.F.R. § 51.607 provides in pertinent part:

> The wholesale rate that an incumbent LEC may charge for a telecommunications service provided for resale to other telecommunications carriers shall equal the rate for the telecommunications service, less avoided retail costs, as described in section 51.609…

allocate these costs without further analysis. Ameritech presented evidence that these costs were associated with the provision of UNEs. The CLECs' proposed allocation is arbitrary.

Staff evaluated the costs in question based on the descriptions provided. Based on past decisions of the Commission, staff presented the alternative of categorizing these costs as competition implementation costs. In evaluating Ameritech's Statement of Generally Available Terms and Conditions[20] (SGAT), the Commission evaluated similar costs associated with the one time set up of Operations Support Systems (OSS). In that docket, Ameritech also proposed that CLECs should solely bear those costs as those costs would not have been incurred if Ameritech did not provide UNEs. The Commission determined in the SGAT docket that the OSS set up costs were competition implementation costs that benefited all users of the network by opening the network to competition. The Commission allocated these costs to all users of the network.

Staff proposed that the Wholesale Product Support costs could be reclassified to the Network Support category. This reclassification would provide for all users of the network to share the responsibility for these costs. Ameritech argued that the costs in the SGAT were different than the costs under consideration here. Ameritech argued that the SGAT addressed one time costs and these costs were ongoing costs.

The Commission determined that staff's reclassification was reasonable. The one time versus ongoing nature of the expenses does not change their function. The Commission determined that while Wholesale Product Support includes some basic level of costs, these costs were incurred in contentious proceedings interpreting the requirements to open markets to

[20] Docket 6720-TI-120, May 1997 Final Order.

competition. It would be unreasonable for the CLECs to incur their own costs in these proceedings and to bear Ameritech's costs as well through directly assigning these costs to UNEs. Staff's reclassification provides a means by which Ameritech's retail operations will share in these costs.

Staff's option will significantly lower the mark-up on wholesale UNEs and interconnection. The reclassification of Wholesale Product Support to Network Support will provide a reasonable relationship between the wholesale and retail mark-ups. With this reclassification, Wholesale and Retail products will share equally in these costs. Ameritech and its competitors will both incur their own marketing costs associated with their own retail products and services. The Commission determined that reclassifying Wholesale Product Support to Network Support is a reasonable means to ensure that UNEs do not bear an unreasonable share of joint and common costs.

Regulated and Nonregulated Costs. Ameritech's joint and common cost study started with accounting data that included both regulated and non-regulated cost data. Ameritech made specific adjustments to remove nonregulated costs, such as payphone costs, from both the numerator and denominator of the mark-up calculation. The CLECs asserted that Ameritech only produced TELRIC or Long Run Incremental Cost (LRIC) studies for certain regulated services. The CLECs asserted that there were no cost studies for non-regulated services for parties to examine in order to determine that nonregulated services costs are not also included in the joint and common costs. The CLECs asserted that without LRIC studies for these services, it cannot be determined whether nonregulated services were excluded from the USOA accounts identified by Ameritech as joint and common cost accounts.

The Commission accepted Ameritech's adjustments removing nonregulated costs as reasonable. The Commission does not agree that TELRIC or LRIC studies are necessary for all nonregulated services in order to make reasonable adjustments to remove nonregulated costs from the numerator and the denominator in Ameritech's model.

Investment Growth. The CLECs proposed an investment growth adjustment to the denominator in Ameritech's model. Ameritech asserted that no adjustment is needed for investment growth in its model. The Commission agrees with the CLECs that an adjustment should be made for investment growth for the reasons discussed below.

Ameritech asserted that the CLECs proposed this adjustment in order to inflate the pool of direct incremental (or TELRIC) costs that make up the denominator and thus lower the mark-up percentage. Ameritech asserted that its model started with 1998 booked investment levels, on an account-by-account basis, and restated them on a current year basis. These restated account balances are then made forward-looking by applying forecasted Telephone Plant Indices (TPI) changes. Accordingly, these changes should reflect expected changes in the price of equipment and quantify both inflationary and deflationary factors.

The CLECs explained that Ameritech's forecast joint and common expenses for 2001 (i.e., the numerator) are based on historical data that includes line growth. However, Ameritech did not do this for investment-related expenses in the denominator, i.e., that is, Ameritech's study does not take network growth into account. Ameritech only attempts to determine the future replacement cost for its current plant, but does not consider the fact that its access lines and plant investment will also increase over time. Not forecasting line growth would result in an understatement of the investment related expenses that comprise the denominator for the joint

and common cost mark-up calculation, which, in turn, overstates the joint and common cost mark-up. The CLECs provided a forecast of the expected plant growth from 1998 to 2001 and asserted this forecasted growth should be incorporated into Ameritech's study. The forecast demonstrated an expected 4.5 percent decrease in Land and Support investment from 1998 to 2001 and an expected 12.31 percent increase in non-Land and Support investment during the same period. The Commission determined that it is reasonable to apply the CLECs' adjustments for investment growth to determine a reasonable mark-up for joint and common costs.

Efficiency Adjustment. The CLECs proposed a 24 percent reduction in joint and common expenses to reflect efficiencies that should be gained, based on AT&T data. Ameritech asserted that it applied a 3 percent reduction per year for productivity consistent with the Commission's price cap proceedings and no further efficiency adjustment is appropriate. The Commission agrees with Ameritech's analysis and determined that no additional efficiency adjustment is necessary in calculating reasonable joint and common costs.

The CLECs asserted that within its joint and common cost study, Ameritech relied on its 1998 investments and expenses without making any adjustment to reflect efficient operations. The CLECs asserted that Ameritech currently operates in a predominately non-competitive environment and has thus not been subjected to the disciplining effect of real competition. Therefore, in order to make Ameritech's joint and common costs reflective of a forward-looking, most-efficient operation, the CLECs proposed a 24 percent reduction in Ameritech's joint and common costs. The CLECs explain that this 24 percent reduction is based on the changes in AT&T's expense to revenue ratio as AT&T is a telecommunications company that went from a monopoly to a competitive environment.

Ameritech explained that AT&T's expense-to-revenue ratio that serves as the basis for the CLECs' proposed 24 percent reduction to the Ameritech joint and common cost factor is not an appropriate comparison. Ameritech explained that a review of pertinent AT&T annual reports for the expenses in question highlights why such a comparison is not appropriate. As AT&T was being declared a non-dominant carrier between 1994 and 1995, AT&T experienced a $2.726 billion increase in Sales, General and Administrative (SG&A) expenses. Between 1997 and 1999, AT&T's SG&A expenses fell by less than 6 percent: from $14.371 billion to $13.516 billion, or $855 million (less than one-third of the increase in these expenses experienced between 1994 and 1995). During the same period, revenues increased from $51.577 billion to $62.391 billion. In addition, Ameritech's proposed 3 percent productivity adjustment falls only $6 million short of matching the percentage reduction in AT&T's SG&A expenses during the three-year period 1997 to 1999. Accordingly, the expense-to-revenue ratio was driven by increased revenues and not reduced expenses and is not an appropriate basis upon which to adjust expenses for efficiencies. The Commission agrees with Ameritech's analysis and determined that it is not reasonable to make the CLECs' proposed efficiency adjustment in determining a reasonable level of joint and common costs.

Clearance Accounts. The CLECs asserted that Ameritech double counted its Plant Operations Administration (USOA 6534) and Engineering (USOA 6535) expenses because these accounts are clearance accounts. Ameritech asserted that it properly applied the accounting for clearance accounts and that there was no double counting of these expenses. The Commission agrees with Ameritech that there is no evidence supporting a conclusion that costs have been double counted.

The CLECs asserted that Plant Operations Administration and Engineering expenses are double counted as these expenses are found in both the TELRIC studies, and the joint and common cost study. The CLECs recommended that Ameritech allocate these expenses between the TELRIC and joint and common cost pools in the same proportion that Network Administration (another Network Support expense account) is allocated.

Ameritech explained that throughout the accounting period in question, from time-to-time expenses initially included in these accounts are identified with specific construction projects and specific plant operations. When that occurs, the amounts identified are removed from the "clearance" accounts and placed in more specific accounts. Once removed in this fashion, the expenses in question are no longer in the clearance accounts – they have been cleared – and the remaining balance is net of the expenses that have been "cleared." Only the net amounts remaining after all "clearances" have been booked are included in Ameritech's common cost pools. There is no double-counting; amounts originally included in these clearance accounts are removed – or "cleared" – into more specific accounts as soon as they are identified with specific projects and/or operations. All relevant amounts are either in the clearance accounts or in other accounts; they are not and cannot be in both places at the same time.

The CLECs asserted that the only costs that should be in the plant specific accounts, which contain cleared amounts from accounts 6534 and 6535, and that do not become part of the maintenance factors, should be the costs associated with a list of activity codes they identified. The CLECs asserted that if any other activity codes were included, there would have been double counting.

The Commission does not find any evidence from the CLECs that improper activity codes were actually included. The Commission determined that while the CLECs identified a hypothetical possibility that costs from clearance accounts could be handled improperly, they did not present evidence that double counting did occur. The Commission accepts Ameritech's assertion that its accounting is correct. Accordingly, it would be unreasonable to make the CLECs proposed adjustment to clearance accounts.

Legal Expenses. The CLECs argued that Legal and External Relations costs should be removed in their entirety from the joint and common cost pool. Ameritech asserted that its Legal and External Relation costs are necessary joint and common costs and should not be eliminated from the joint and common cost pool. As discussed below, the Commission does not accept the CLECs proposed adjustment. The Commission determines that the CLECs' proposed adjustment has very little impact on the resulting mark-up for joint and common costs.

Ameritech argued that legal expenses arise from (1) additional negotiations and arbitrations with requesting carriers; (2) renegotiation of existing interconnection agreements; (3) complaint cases regarding Ameritech's performance under such agreements; and (4) cost dockets such as this one regarding UNEs. Ameritech asserted that these expenses are not optional and the Commission should permit Ameritech to recover in its UNE rates the legal expenses it incurs in implementing the Act.

The CLECs asserted that Ameritech should not be allowed to include Legal and External Relations costs in its joint and common costs. The CLECs asserted they should not be required to underwrite Ameritech's litigation and lobbying efforts against them. The CLECs asserted that Ameritech undoubtedly incurs legal and external relations expense as do CLECs. The difference

is that Ameritech would like to recover its legal costs from the CLECs, something CLECs cannot recover from Ameritech. Therefore, the CLECs propose that Ameritech should remove these inappropriate costs from its joint and common cost pool.

The Commission determined that the CLECs' proposed adjustment would have very little impact in the resulting joint and common mark-up. The Commission determined that Ameritech had treated these Legal and External Relations costs in a manner that is similar to how the Commission handled Product Support Expenses. Ameritech allocated these costs over Wholesale, Retail, and Nonregulated TELRIC costs. While the Commission does not want to encourage extensive litigation, the Commission finds these costs are very similar to the Product Support costs which the Commission considered to be competition implementation costs. Accordingly, the Commission determined that Ameritech has allocated Legal and External Relations costs in a manner that does not unreasonably burden UNEs.

Collocation

Collocation is the means by which CLECs place telecommunications equipment in Ameritech's space so that CLECs may interconnect with Ameritech's network and gain ready access to Ameritech's UNEs.

Physical collocation most often consists of setting up metal cages to hold competitors' telecommunications equipment and providing the following types of connectivity: (1) CLEC fiber from the manhole into the cable vault and to the collocation cage; (2) copper connections to Ameritech's cross-connects to pick up unbundled loops or to connect to Ameritech network; and (3) connectivity to the -48V DC power source. This set-up requires building the cage, installing cables on racks, and properly grounding the equipment.

Models Presented. Ameritech presented its Collocation Cost Template (CCT). The CLECs presented their Collocation Cost Model (CCM). The CLECs' CCM was based on a Model CO. Ameritech's CCT was based on Ameritech's experience providing collocation.

Both claim their models meet the requirements of 47 U.S.C. § 251(c)(6) "… to provide, on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, for physical collocation of equipment necessary for interconnection or access to unbundled network elements …." As explained in the discussion below, the Commission adopts the CLECs' CCM, as adjusted, to develop rates that are just, reasonable, and nondiscriminatory.

Forms of Collocation. The CLECs asserted that there are six required forms of collocation. Ameritech and the CLECs were in agreement regarding four of the forms of collocation. Ameritech and the CLECs disagreed on the requirements related to two forms of collocation: (1) the appropriate interpretation of Shared Cage Collocation; and (2) whether Adjacent Off-Site Collocation is a required form of collocation. The Commission discusses the two disputed forms of collocation below.

Shared Cage Collocation. Ameritech and the CLECs have different interpretations of the FCC requirement to provide Shared Cage Collocation. Ameritech asserted that at least two CLECs must order Shared Cage Collocation together, decide how to split the costs between them, and have only a single CLEC deal directly with Ameritech over the arrangement. The CLECs asserted that a single CLEC should be able to request Shared Cage Collocation,[21] that the CLECs should be charged on a per linear foot basis developed using an occupancy factor, and

[21] The CLECs used the term Caged Common Collocation. The FCC used the description, Shared Cage, in its *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, FCC 99-48, (March 31, 1999) (*Advanced Services Order)*, so that term is used throughout this order.

that multiple CLECs in Shared Cage Collocation should be able to deal directly with Ameritech. The Commission agrees with the CLECs that a single CLEC should be able to request Shared Cage Collocation and that Ameritech should deal directly with all CLECs in the Shared Cage form of collocation. The Commission also agrees with the CLECs that Ameritech should allocate the costs among CLECs based on a reasonable occupancy factor. However, the Commission does not agree with the CLECs' proposed increments in which Shared Cage Collocation should be made available or the CLECs' proposed occupancy factor.

FCC rules say Incumbent Local Exchange Carriers (ILECs) must provide any technically feasible method of obtaining UNEs, upon request by a CLEC. There is a presumption that a method is technically feasible if it is a collocation method deployed elsewhere by any ILEC or mandated by a state commission.[22] The Texas Commission ordered the CLECs' form of Shared Cage Collocation before the FCC issued its order defining Shared Cage Collocation. The CLECs' form of Shared Cage Collocation is offered in collocation tariffs in some SBC states. Accordingly, this Commission determines that Ameritech must offer the CLECs' form of Shared Cage Collocation as it is presumed to be technically feasible.

While Ameritech has offered a method of Shared Collocation, the Commission determined that Ameritech's proposed Shared Cage Collocation does not provide anything other than what is already available as Caged Collocation. Any CLEC can share its cage with another CLEC while still paying Ameritech for the full cost of the cage. Ameritech's version of Shared Cage Collocation is simply a variation on typical Caged Collocation.

[22] Order on Reconsideration on Deployment of Wireline Services Offering Advanced Telecommunications Capability, FCC 00-297, (Aug. 10, 2000) (First Collocation Order); and 47 C.F.R. § 51.321(c).

Specifically related to Shared Cage Collocation, the FCC states:

> In making shared cage arrangements available, incumbent LECs may not increase the cost of site preparation or nonrecurring charges above the cost for provisioning such a cage of similar dimensions and material to a single collocating party. In addition, the incumbent must prorate the charge for site conditioning and preparation undertaken by the incumbent to construct the shared collocation cage or condition the space for collocation use, regardless of how many carriers actually collocate in that cage, by determining the total charge for site preparation and allocating that charge to a collocating carrier based on the percentage of the total space utilized by that carrier. In other words, a carrier should be charged only for those costs directly attributable to that carrier. The incumbent may not place unreasonable restrictions on a new entrant's use of a collocation cage, such as limiting the new entrant's ability to contract with other competitive carriers to share the new entrant's collocation cage in a sublease-type arrangement. In addition, if two or more competitive LECs who have interconnection agreements with an incumbent LEC utilize a shared collocation arrangement, the incumbent LEC must permit each competitive LEC to order UNEs to and provision service from that shared collocation space, regardless of which competitive LEC was the original collocator.[23]

Accordingly, the Commission determines that Ameritech must prorate site conditioning and preparation costs, and other CO build-out costs, regardless of how many CLECs share the cage. Ameritech must deal directly with any CLEC that occupies a shared cage regardless of which CLEC was the first to enter the cage. Ameritech must offer Shared Cage Collocation to a single CLEC requesting this form of collocation. The Commission determined that Ameritech must allocate costs among collocators. These are the terms of the CLECs' form of Shared Cage Collocation and not Ameritech's form of Shared Cage Collocation.

While the Commission made the above determinations on the terms of Shared Collocation, it has concerns about the increments in which Shared Cage Collocation is made available and the method of allocating costs. The FCC requires that LECs provide "the option to

[23] Advanced Services Order at par. 41.

request collocation cages of any size without any minimum requirement, so that competing providers will not use any more space than is reasonably necessary for their needs."[24]

The Commission determined that Shared Cage Collocation is an important option in the continuum of FCC required collocation options. The Commission finds that the FCC has defined the following continuum in collocation options, ranging from greatest space and highest initial cost to smallest space and least initial costs: (1) Caged Collocation, (2) Shared Cage Collocation, (3) Cageless Collocation, and (4) Virtual Collocation. Adjacent On or Off Site Collocation are options that apply only when space is not available for collocation inside the CO. In that continuum, the CLECs' model develops a minimum square foot size for Caged Collocation of 100 square feet.[25] The CLECs proposed a minimum 26.5 linear inch size for Shared Cage Collocation which is the same as the CLECs proposed for both Cageless Collocation and Virtual Collocation. The Commission accepts the CLECs' minimum 26.5 linear inches for Cageless Collocation and Virtual Collocation. However, it is reasonable that Shared Cage Collocation should provide an option that fits between Caged Collocation and Cageless Collocation in terms of size and initial cost.

Ameritech identified that the offering that the CLECs proposed for Shared Cage Collocation requires Ameritech to set aside 550 square feet of space for the common cage, and then base the cost for Shared Cage Collocation on the number of linear feet in that cage (86.125 linear feet). Thus, under the CCM, if as few as two collocators sought the CLECs' form of Shared Cage Collocation, Ameritech would be required to set aside and condition 550 square

[24] *Id. at* par. 38.

[25] Ameritech included a proposal for a 50 square foot minimum size for Caged Collocation.

feet of CO space with no assurance that the sharing collocators would take (and pay for) more than 4.4 linear feet of space (each of two collocators ordering one 26.5 inch wide cabinetized relay rack). This would allow Ameritech to recover only a small portion of the costs associated with the total space it was required to construct and set aside. For comparison purposes, 26.6 linear inches represents 10.33 square feet of usable floor space.[26]

The Commission determined that the CLECs' proposed increments and occupancy factors do not provide Ameritech a reasonable opportunity to recover the costs it will incur in providing Shared Cage Collocation. The Commission determined that an increment of 25 square feet for Shared Cage Collocation is reasonable. It provides an option that would fall reasonably between the 100 square foot size for Caged Collocation and the 10.33 equivalent square feet for Cageless Collocation.

Currently, there is no experience with Shared Cage Collocation from which to base an occupancy factor. However, to provide Ameritech with a reasonable opportunity to recover the cost of 100 square foot cages sold in 25 square foot increments, the Commission determines that the use of an occupancy factor is necessary and reasonable. The Commission determines that an occupancy factor of 50 percent is reasonable to use at this time. If this form of collocation proves to be a popular form of collocation, experience would support a higher occupancy factor in the future. The Commission determines that these space requirements are reasonable in light of the costs, as compared to other available forms of collocation.

[26] This is computed as follows: 550 square feet provides for 400 square feet of usable cage space that provides 86.125 linear feet of space. Therefore, 26.5 linear inches is equivalent to 10.33 square feet of usable cage space.

Adjacent Off Site Collocation. Ameritech asserts that it is not required to offer Adjacent Off Site Collocation as it is not a required form of collocation. The CLECs asserted that Ameritech should be required to offer Adjacent Off Site Collocation. The Commission rejects the CLECs' position. What the CLECs are referring to as Adjacent Off Site Collocation is, in fact, not a collocation arrangement at all.

The Adjacent Off Site Collocation offering that the CLECs are seeking to create is inconsistent with the Telecommunications Act of 1996 (TA 96). 47 U.S.C. § 251(c)(6) defines collocation as "the duty to provide, on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, for physical collocation of equipment necessary for interconnection or access to unbundled network elements *at* the premises of the local exchange carrier. . . ." (emphasis added.) The proposed Adjacent Off-Site Collocation is not "at" the premises of the ILEC. This conclusion is supported by language in other rules and orders, and is consistent with court decisions.[27]

Use of Average Distances and Average Number of Splices. Ameritech asserted that collocation rates should be on a per foot and per splice basis. The CLECs asserted that collocation rates should be based on average distances and average number of splices for all forms of collocation. The Commission finds that use of average distances and number of splices is reasonable except for adjacent On-Site Collocation, for which case-specific costs should be determined based on standardized rates, without applying average distances.

[27] 47 C.F.R. § 51.323(k)(3); 47 C.F.R. § 51.5 (defining premises); *Advanced Services Order*, paras. 19-20 and n.27; *First Collocation Order* at paras. 9, 42 and 44; *GTE v. FCC*, 205 F.3d 416 (D.C. Cir. 2000), 425; *U.S. West v. American Tel. Technology, Inc.*, No. C00-0586l, 2000 U.S. Dist. LEXIS 19046, at pp. 2-4 (W.D. Wash. Nov. 20, 2000); ICC Order, Docket 99-0615, August 9, 2000, pp. 13-14.

The Commission finds that collocation at Ameritech's CO is largely under the control of Ameritech. In a competitive environment, an incumbent will not have the incentive to minimize the costs to competitors for collocation. For example, Ameritech will not have the incentive to make space in its CO available to a competitor on the same basis as it makes space available for additional equipment for its own use. Indeed, Ameritech has the incentive to gold plate the collocation arrangement unless the Commission vigorously applies the best practice standards to counter-balance that incentive. Ameritech may have the incentive to require competitors' collocated equipment to be placed in a remote area of the CO, far from cross connects. To overcome Ameritech's incentive to impose unnecessary costs by virtue of its ability to dictate placement of collocated equipment, the CLECs' CCM includes ILEC investments for initial connectivity cabling based on cable lengths developed from a Model CO. By basing the connectivity installation on established cable lengths, the incentive for Ameritech to impose excess cabling costs on the competitors is mitigated.

Ameritech argued that the use of actual costs on a per-foot or per-splice basis is consistent with the cost causative principles envisioned by the FCC, whereas the CLECs' proposal is inconsistent with the D.C. Circuit Court's decision in *GTE v. FCC,*[28] which permits the ILEC to determine where CLEC equipment will be collocated. Ameritech further asserted that interconnection agreements between the CLECs and Ameritech have dispute resolution provisions which enable CLECs to challenge any future disputes regarding determination of cabling distances, and that the Commission has a mechanism by which a CLEC may file a complaint if it believes that it has been subjected to discriminatory treatment.

[28] *GTE v. FCC*, 205 F 3d 416 (D.C. Cir. 2000) (*GTE v. FCC.)*

Ameritech stated that it does not have average cable lengths. The CLECs provided a reasonable means of determining average cable lengths using the distances developed from the Model CO in the CCM. The cabling distances within the CCM are based on a forward-looking CO layout and represent appropriate distances to use in the Ameritech cost analysis. Sometimes Ameritech's actual cable lengths will be longer and sometimes they will be shorter. However, on average, the lengths in the Model CO provide a reasonably efficient provider the ability to recover its reasonably incurred costs. The use of average distances does not dictate to Ameritech where it must locate its equipment. It provides appropriate incentives for Ameritech to be efficient in its placement decisions. Relying on a complaint process alone may give Ameritech an incentive to be less efficient and to put CLECs through lengthy complaint proceedings to receive the nondiscriminatory service Ameritech is required to provide. Accordingly, the Commission finds the CLECs' CCM Model CO is reasonable to use for establishing average cable lengths and number of splices on which to base fixed prices for collocation.

However, the Commission agrees with Ameritech that, due to the case-specific nature of Adjacent On-Site Collocation, it is neither feasible nor desirable to attempt to set one-size-fits-all rates for Adjacent On-Site Collocation. This type of collocation is used only when there is no space available within the CO. Under such constraints, there is no reasonable means of making an estimate in advance of where an on-site structure could be located. Rather, the rates for a specific adjacent on-site arrangement can be calculated using standardized per foot and per splice rates with the footages determined based on the case specific situation. To the extent that an appropriate rate cannot be determined from the rates and footages developed through the Model CO, rates should be determined on a case-by-case basis, using Ameritech's actual costs.

DS1/DS3 Repeaters. Ameritech asserted that DS1/DS3 repeaters should be included in collocation costs. The CLECs asserted that based on the lengths of cable that should be needed by an efficient provider, DS1/DS3 repeaters are not necessary. The Commission agrees with the CLECs that an efficient provider should not need to incur the expenses associated with DS1/DS3 repeaters.

Repeaters only become necessary when the cable lengths for DS1 and DS3 circuits become too long (655 feet for a DS1 and 450 feet for a DS3). In its comprehensive evaluation of ILEC collocation costs, the FCC found that it was inappropriate for ILECs to impose the cost of repeaters on CLECs for physical collocation. Specifically, the FCC found:

> (I)t is unreasonable for the LECs to charge interconnectors for the cost of repeaters in the physical collocation arrangement because the record demonstrates that repeaters should not be needed for the provision of physical collocation service. The record demonstrates that … a repeater is only necessary to maintain proper voltage level of an electronic signal when the length of cable between the interconnector's cage and the LEC's digital cross-connect bay exceeds 655 feet for a DS1 and 450 feet for a DS3. A cabling distance of 450 feet is a considerable distance, and no LEC demonstrates that it needs more than 450 feet to cable to obtain interconnection.[29]

Recurring or Nonrecurring Charges. Ameritech asserted that one time Central Office Build Out (COBO) expenses should be charged as an upfront nonrecurring charge, while ongoing collocation expenses should be charged as recurring charges. The CLECs asserted that equipment that cannot be shared with Ameritech or that cannot be used by subsequent occupants of collocation space should be charged as nonrecurring charges. All other equipment should be treated as monthly recurring charges. The Commission agrees with the CLECs' criteria for determining when a charge should be a recurring charge and when a charge should be a

[29] Second Report and Order on Expanded Interconnection Through Physical Collocation for Special Access and Switched Transport, FCC 97-208, (June 12, 1997) (Expanded Interconnection Proceedings) par. 117.

nonrecurring charge. The Commission determined these criteria provide a reasonable means of allocating the cost to users over the useful life of equipment.

A major concern with the cost of collocation is the substantial barrier to entry that it poses if sizable, one-time, upfront expenditures are required of competitors to obtain collocation space – space that can be used over a period of years by multiple occupants. This is especially troublesome at a time when CLECs have relatively few customers and are, therefore, most vulnerable competitively. On the other hand, Ameritech expressed concern that if collocators abandon the space before its economic life is exhausted, Ameritech would be saddled with an expense that it would be unable to recover over the long run. Ameritech further asserted that its approach is consistent with the criteria that costs must be attributed on a cost causative basis. Ameritech asserted that it seeks to recover its collocation costs in the same manner in which they are incurred, with one-time start-up expenses recovered through nonrecurring charges.

The Commission determined that using recurring charges over the life of an asset appropriately attributes costs on a cost causative basis. This is consistent with standard depreciation practices. The potential for vacancies is reasonably handled through the use of occupancy factors. While the addition of a retail customer "causes" one time start-up costs, normal plant additions are not charged as upfront nonrecurring charges.

Of particular concern is that Ameritech has proposed to convert certain charges that were formerly charged as recurring charges, to nonrecurring charges. These include additions to Heating Ventilation and Air Conditioning (HVAC) and the Battery Distribution Fuse Bay (BDFB) which are discussed in further detail below. Ameritech's own witness testified that

Ameritech's proposed treatment of the HVAC and BDFB is not consistent with how other ILECs recover those collocation-related costs.

In light of the potentially inhibiting impact that large, one-time, upfront charges can have on competition, this Commission is particularly concerned that a consistent approach be used in determining whether an investment is recovered using nonrecurring or recurring charges. Collocation investments ultimately provide the capacity to serve multiple collocators and are reusable beyond just the occupancy of a single collocator. In a competitive environment the need for collocation will be ongoing. The potential for stranded costs occurs only if collocation is not a viable business option and competition ceases to exist. It would be unreasonable for the Commission to base its decisions on an assumption that collocation will become less desirable and that competition will fail. The Commission finds the CLECs' criteria provide a reasonable basis for consistently determining whether costs should be charged as a recurring or a nonrecurring charge.

Activity Times. Ameritech estimated longer activity times than the CLECs. Ameritech developed its activity times based on the observations and experience of its subject matter experts (SMEs). Ameritech SMEs, in some instances, had performed time and motion studies. The CLECs developed activity times based on input from a panel of experts. Underlying support for their determinations was not presented. There were no intermediate positions presented for activity times. The Commission determined that Ameritech's activity times are reasonable to use in determining collocation costs.

For nonrecurring costs, Ameritech made comparisons to AT&T's Task Oriented Cost (TOC) studies. The disparity between the CLECs' proposed activity times and the TOC studies

for NRCs casts doubt on the reliability of the CLECs' activity times for collocation costs. Accordingly, the Commission finds that Ameritech's activity times are better supported than the CLECs' activity times and are reasonable for developing collocation costs.

Materials Prices. Ameritech proposed materials prices based on R. S. Means data for calendar year 2000, plus information from its subject matter experts (SMEs). The CLECs presented materials prices based on R. S. Means 1997 data, plus vendor quotes. The Commission accepts Ameritech's materials prices.

R. S. Means is a data sourcebook widely used in the industry. The data provided in R. S. Means is compiled from submissions from ILECs who actually have constructed COs. However, Ameritech pointed out a number of flaws in the CLECs' materials prices assumptions. This included the use of old 1997 R. S. Means data while clearly labor costs, which are likely to be a good portion of CO construction costs, had increased since this time. The CLECs omitted costs to protect Ameritech's equipment, which was described in R. S. Means as a necessary adjustment. The CLECs' R. S. Means data was based on large COs and was not adjusted for the reduced economies of scale for smaller projects. There were cases where the bids obtained by the CLECs contained some large differences that raised concerns about whether the descriptions in the bids were sufficiently clear. Accordingly, the Commission finds that Ameritech's material prices are better supported and are reasonable for developing the cost of collocation.

Central Office Build Out (COBO) Costs. Ameritech argued that the cost to build a CO and the cost to modify it for collocation are both long run, forward-looking costs. Ameritech asserted that its costing approach was consistent with the TELRIC methodology and provided a reasonable approximation of the forward-looking, long run costs it incurs in accommodating

collocating CLECs. The CLECs argued that they should not pay for both the cost of a new building today plus the cost of modifications to that new building to meet their collocating needs. They argued that allowing this would be mixing costing methods. The Commission agrees with Ameritech that the FCC rules allow, as discussed below, both the cost of a new building and the costs to modify that building.

TA 96 requires ILECs to provide collocation on rates, terms, and conditions that are just, reasonable and nondiscriminatory.[30] The FCC first interpreted TA 96 collocation requirements in the *Local Competition Order*. The FCC determined that the same TELRIC standard applies to both interconnection and unbundled elements.

The FCC's TELRIC standard is based on forward-looking, long-run, incremental costs, that include the current cost to construct and not embedded historical costs. However, the FCC has also given particular directions regarding the inclusion of the ILECs' costs to modify COs to accommodate collocating CLECs. In its *Local Competition Order*, the FCC permitted the ILECs to require reasonable security measures.[31] In its *Advanced Services Order*, the FCC stated that space preparation includes air conditioning and power upgrades, and required that these conditioning and site preparation costs must be partitioned so that the first entrant does not bear the entire cost of site preparation.[32] The *Expanded Interconnection Proceedings* allowed recovery of the cost to modify a CO as exemplified in the following statement:

> GTOC's nonrecurring charge for building modification should not exceed the amount of the material and labor costs incurred to modify the building.[33]

[30] 47 U.S.C. § 251(c)(6).

[31] *Local Competition Order* at par. 598; and 47 C.F.R. § 51.323(i).

[32] *Advanced Services Order* at par. 51; and 47 C.F.R. § 51.323(k).

[33] *Expanded Interconnection Proceedings* at par. 30.

Appropriate cost recovery for site preparation costs is a difficult issue. There is merit to the CLECs' arguments. Collocation creates a revenue stream for the ILEC where it already owns empty building space which was not previously generating any revenue. Collocation allows an ILEC to obtain revenue from that previously unused space. In other competitive rental situations, a company would likely be able to charge for either the cost to modify an old building or the cost to build a new building but would not be competitive if it attempted to charge for both. However, applying the FCC rules as discussed above, the Commission will allow the cost to modify a building plus the cost of a new building. In harmonizing these directives, the Commission determines it is appropriate to distinguish, to the extent possible, that the modification costs allowed are associated with creating additional usable space. This discussion is broken into: (1) HVAC; (2) BDFB; (3) Security, including Video Surveillance and Access Cards; and (4) Site Conditioning-Mechanical, Electrical, Administration.

Heating Ventilation and Air Conditioning (HVAC). Ameritech proposed to treat HVAC costs as an upfront nonrecurring charge. The CLECs asserted that HVAC should be included in the monthly recurring charges for power consumption and, accordingly, increase or decrease with the amount of power consumed. The Commission agrees with the CLECs' proposal for HVAC.

The CLECs point out that Ameritech formerly included HVAC costs in the power consumption charge, but in this case has moved this cost to the upfront nonrecurring COBO charge. The CLECs identified that in other SBC states, HVAC is treated as a recurring cost. The CLECs argue that it is reasonable to base HVAC costs on power consumption, which corresponds to the energy required to dissipate generated heat.

The Commission determined that recovering HVAC costs in recurring charges is consistent with its adoption of the CLECs' criteria for determining when a cost should be treated as a recurring cost versus a nonrecurring cost. Basing HVAC costs on the level of heat expected to be dissipated is a reasonable means of developing the additional costs associated with collocation. For these reasons, the Commission finds that the CLECs' costs and treatment of HVAC costs are reasonable in determining collocation costs.

Battery Distribution Fuse Bay (BDFB). Ameritech argued that the BDFB should be located between the ILEC and the CLEC equipment and not in the common space of the caged collocation area. Ameritech argued that both the primary and secondary power feed should be included and that there should be separate grounding costs. Ameritech included the cost of the BDFB in the COBO nonrecurring charges.

The CLECs argued that the BDFB provides power delivery and should be included in power consumption as a recurring charge. The CLECs further argued that the BDFB should be located in the common space of the caged collocation area, that only the secondary power feed should be included, and that there should not be any separate grounding costs.

The Commission agrees in part with Ameritech and in part with the CLECs. The Commission determined that it was reasonable to assume that the BDFB is located between the ILEC and CLEC equipment. However, the Commission determined that the BDFB should be included in the monthly recurring charge and not the upfront COBO nonrecurring charge.

The record showed that the BDFB should be located closest to the greatest draw on the power. This would be closer to the ILEC equipment and not in the shared collocation area. This supports Ameritech's development of the cost of the BDFB which the Commission adopts.

Regarding the CLECs' concerns, the Commission found that an Ameritech witness identified that the BDFB costs were formerly recovered through the power consumption charge on a recurring basis. Ameritech's treatment of the BDFB as an upfront nonrecurring charge differs from its treatment in other SBC states. The Commission determined, consistent with its above decision on recurring and nonrecurring costs, that the BDFB should be included in a recurring charge as proposed by the CLECs.

Security, including Video and Access Cards. Ameritech argued that security costs should include mechanical coded locks, card readers, and security fencing that are each dedicated to a collocator, plus a video surveillance system in approximately one quarter of the COs, the cost of which would be shared by the average number of collocators in a CO. Ameritech's security costs represented a significant portion of its COBO charges.

The CLECs argued that video surveillance costs should be allocated to both Ameritech and the CLEC collocators based on square footage. The CLECs' CCM allocates security costs of $62,156 based on 100 square feet of collocation space out of a 48,000 square foot CO for $178 per cage of surveillance cost allocated to collocation. The CLECs argued that the only other cost that should be added is $75 for additional security cards.

The Commission determines that neither of the two proposals meets the requirements of the FCC rules. It is reasonable to include additional cost associated with adding reasonable security measures to a CO to accommodate collocation.[34] Accordingly, the Commission will allow costs for reasonable security additions, which is more than the CLECs' proposed allocated costs. However, the FCC requires that collocation charges be developed on a prorata basis so the

[34] *Local Competition Order* at par. 598; and 47 CFR 51.323(i).

first collocator in a particular location will not be responsible for the entire cost of site preparation.[35] So, the Commission determined that Ameritech dedicating security measures to a single collocator is not reasonable.

In relation to separate entrances or isolated rooms, the FCC gives the following guidance: "An interpretation that would allow an incumbent to require separation of equipment, or separate entrances in all cases, regardless of the potential effect on competition, would fail to properly balance the statute's competing interest."[36] Accordingly, it is reasonable that mechanical coded locks and card readers should be shared between Ameritech and the CLECs to the extent feasible. Ameritech will need to reevaluate its COs, develop an estimate of the frequency with which separate entrances are needed to accommodate collocators and adjust its costs to reflect that frequency of occurrence. The FCC provides guidance concerning such an estimate: "Separate entrances will meet the 'just, reasonable and nondiscriminatory' standard only where a separate entrance already exists that provides access to the collocation space at issue or where construction of such an entrance is technically feasible, and will neither artificially delay collocation provisioning nor materially increase the requesting carrier's cost..."[37]

The incumbent LEC may take reasonable steps to protect its own equipment. The Commission permits an incumbent LEC to install, for example, security cameras or other monitoring systems, or to require competitive LEC personnel to use badges with computerized tracking systems. However, all these measures are not needed all the time. There is no need for

[35] Advanced Services Order at par. 51.

[36] Deployment of Wireline Services Offering Advanced Telecommunications Capability, FCC 01-204, (Aug. 8, 2001) (Second Collocation Order) par. 100.

[37] *Id.* at par. 103.

inefficient redundancies. For example, if video surveillance is used, there should not be a need to use computerized tracking of personnel. Ameritech needs to prepare an analysis of the frequency with which each of its proposed security measures is necessary to accommodate collocators. The frequency of occurrence of the cost should then also be factored into the cost allocated for all security measures.

Ameritech does estimate the frequency of video surveillance based on approximately one quarter of its COs needing video surveillance. Ameritech further divides the video surveillance cost between the average numbers of collocators in a CO. However, Ameritech does not estimate frequencies or make such a proration for any of its other security costs. The Commission determined it is reasonable that all the security costs should include a frequency of occurrence and should be divided between the average number of collocators in a CO. This will provide a reasonable determination of the additional cost necessary to accommodate collocation.

Site Conditioning-Mechanical, Electrical, Administration. Ameritech includes costs for mechanical, electrical, and administrative costs in its COBO charges. The CLECs included lower costs for these items. The reason for these differences is not clear on the record. In part, Ameritech includes costs to deal with obstructions while making collocation space available. The Commission determined that it is reasonable to require Ameritech to provide details concerning the make up of its site conditioning costs and to make adjustments for the fact that not all conditioning charges will be necessary for each collocation.

The CLECs explained that the per square foot cost of building space was developed using R. S. Means data. The data provided are compiled from submissions from ILECs who actually have constructed COs, but there is no explanation of what costs are included in those

submissions. The CLECs asserted that it is likely that these estimates include costs associated with sufficient air conditioning, floor covering, and other components. Still, the CLECs treated their estimates as conservative by adding some mechanical, electrical, and administrative costs. The CLECs divide these costs among the average number of collocators in a CO.

Ameritech argued that obstructions will exist and engineering will be needed to make collocation space available. In addition, its asbestos abatement evaluation charge is not for the removal of asbestos, but for the work effort to determine if asbestos is present. Ameritech asserted that it incurs this cost because of the CLECs' request for collocation space, not because Ameritech wants to use the space.

The Commission finds that costs associated with making space available to collocators should be included in collocation charges. However, the Commission also finds that it is also reasonable to require Ameritech to evaluate the frequency with which it will experience obstructions and the need for engineering, and to divide these costs among the average number of collocators. Accordingly, the Commission concludes that it is reasonable to require Ameritech to provide a detailed breakdown showing the make up of its site conditioning costs, to determine the frequency with which those detailed costs will be incurred, and to divide site conditioning costs among the average number of collocators.

Electrical. In addition to electrical costs in the COBO charges, there are other such costs included in collocation charges. The contested issues included: Power Consumption Costs – DC Power Investment; Investment in 200 Conductor Electrical Cross-Connect Block; Depreciation Rate for 200 Conductor Electrical Cross-Connect Block; and Power Delivery Costs-AC

Electrical Panel. The Commission finds that each type of electrical cost identified by Ameritech is reasonable and should be included in collocation charges.

The CLECs argued that some costs, like the DC Power Investment, are covered in other loading factors and that other costs, like the AC Power Electrical Panel, should be assumed to already be included in the R. S. Means data. On other electrical items, the CLECs argued that Ameritech's costs were out of range or not consistent with other pricing guidelines.

Ameritech claimed that its method for cost development was consistent with the method it used for its other materials costs. Many of the costs were developed in other parts of Ameritech's cost studies and carried forward to the collocation analysis. The Commission did not find the CLECs' arguments to be convincing and had adopted Ameritech's materials costs in other parts of Ameritech's cost studies with some adjustments such as fill factors. Accordingly, the Commission determined that Ameritech's electrical costs, once updated for the adjustments made to other parts of Ameritech's cost studies, are reasonable to use in developing collocation costs.

Occupancy Factor-Caged Physical Collocation. Ameritech argued that no occupancy factor is needed as Caged Physical Collocation charges are based on the specific square footages and cable lengths used for that location. The CLECs argued that, for Caged Physical Collocation, three out of four collocation spaces should be considered to be in use. While the Commission agrees with the CLECs that an occupancy factor is reasonable, it does not agree with the CLECs' proposed assumption that three out of four spaces will be occupied.

The Commission notes that Ameritech developed and filed as confidential, an average number of collocators per CO in its calculation of video surveillance costs. Considering that

confidential number and recognizing that this average will change over time, the Commission determines that it is reasonable to assume that two out of four spaces will be occupied.

This occupancy adjustment factor will explicitly recognize that each collocation space provided in the collocation area model layout may not be fully occupied over its economic life. Use of this factor has the effect of increasing monthly costs to account for those time-periods during which a collocator does not occupy the collocation space.

CO Build Out Support Factor/CO Floor Space. Ameritech argued that both a build out support factor and a common area factor should be applied. Both of these convert usable square footage to gross square footage. The build out support factor covers space needed for mechanical rooms, electrical service entry, generator, fuel tank room, and building delivery areas. The common area factor covers space needed due to obstructions, columns, pipes, racks, etc.

The CLECs argued that no additional building support space is necessary and that only 37.5 square feet for each 100 square feet of collocation area should be added for common area for Caged Collocation. The CLECs argued that building support is already included in R. S. Means data.

The Commission finds that the diagram provided by the CLECs with dimensions that support their proposed 37.5 square feet is reasonable to account for the quantity of common space required to support a collocation cage. Therefore, the Commission finds that the CLECs' common area factor is reasonable. The Commission also agrees with the CLECs that building support is already included in R. S. Means data.

Riser fill factor. Ameritech proposed a confidential riser fill factor based on riser space dedicated to collocation. The CLECs proposed a riser fill factor that was based on collocators and Ameritech sharing riser space. The CLECs argued that Ameritech's proposed riser fill factor does not comport with efficient engineering practices. The CLECs argued that its Model CO provides a means of determining a reasonable riser fill factor. The Commission agrees with the CLECs and finds that it is reasonable to base the riser fill factor on collocators and Ameritech sharing riser space.

Difference between Virtual and Cageless Collocation. Ameritech argued that a separate area should be set aside for Cageless Collocation while Virtual Collocation is within the row of Ameritech equipment. In addition, Ameritech argued that Cageless Collocation should also include a cage between the set aside area and Ameritech's equipment, and should include additional space reflecting support and common space needs. Ameritech argued that Cageless Collocation should include security personnel, card readers, and/or surveillance. Ameritech proposed to use essentially the same costs for Cageless Collocation that it developed for Caged Collocation.

The CLECs argued that there should be no difference in costs between Cageless Collocation and Virtual Collocation. The CLECs asserted that the only difference is in terms of access and repair. The CLECs noted that for Virtual Collocation, the CLEC pays to have Ameritech staff trained in maintenance of its equipment, as well as for the actual maintenance performed on its equipment. In Cageless Collocation, the CLEC does its own maintenance but pays for security escorts. Located in Ameritech's equipment line-ups, no additional common space should be needed.

The Commission does not agree with either Ameritech's or the CLECs' proposals. It is not reasonable to require Ameritech to locate Cageless Collocation in the same line up of Ameritech equipment as is done for Virtual Collocation. The D.C. Circuit Court found that the ILEC is entitled to determine the location of collocation arrangements:

> The FCC offers no good reason to explain why a competitor, as opposed to the LEC, should choose where to establish collocation on the LEC's property . . . It is one thing to say that LECs are forbidden from imposing unreasonable minimum space requirements on competitors; it is quite another thing, however, to say that competitors, over the objection of LEC property owners, are free to pick and choose preferred space on the LECs' premises, subject only to technical feasibility. There is nothing in § 251(c)(6) that endorses this approach. The statute requires only that LECs reasonably provide space for 'physical collocation of equipment necessary for interconnection or access to unbundled network elements at the premises of the local exchange carrier,' nothing more.[38]

In its *Second Collocation Order,* the FCC reconsidered its requirement that Cageless Collocation should be within Ameritech equipment line ups. The FCC decided that it had "failed to properly balance the congressional goal of promoting competition against the need to protect an incumbent LEC's property interests against unwarranted intrusion."[39] After much discussion including the analysis that "an incumbent LEC has powerful incentives that, left unchecked, may influence it to allocate space in a manner inconsistent with its statutory duty,"[40] the FCC created the following rules: "An incumbent LEC's space assignment policies and practices must not materially increase a requesting carrier's collocation costs"[41] and, "An incumbent LEC's space

[38] GTE v. FCC at 426.

[39] Second Collocation Order at par. 89.

[40] *Id.* at par. 92.

[41] 47 C.F.R. § 51.323(f)(7)(A).

assignment policies and practices must not materially delay a requesting carrier occupation and use of the incumbent LEC's premises."[42]

Accordingly, it is not reasonable for Ameritech to be required to place Cageless Collocation arrangements in its own equipment line-ups, like it does for Virtual Collocation. From a costing standpoint, reliance on costs developed for Virtual Collocation to set Cageless Collocation rates is not reasonable.

However, it is also not reasonable to use the same cost inputs that were developed for Caged Collocation as Ameritech proposed. It is reasonable to assume Ameritech will be able to find some available space within the already conditioned space of the CO so that additional site preparation costs should not be necessary. As security escorts are required, it is not reasonable to require a cage between the Cageless Collocation space and Ameritech's equipment. However, it may be more difficult to find space where reasonable access can be provided than it is to find space for Virtual Collocation where access is not provided. Accordingly, the Commission finds it is reasonable to allow additional space as common area. Accordingly, it is reasonable for the footprint size for Cageless Collocation to be based on Virtual Collocation plus additional common space.

Because Ameritech based its Cageless Collocation costs on the same COBO costs applicable to Caged Collocation, Ameritech proposed these costs be recovered in a nonrecurring charge. It is reasonable to apply the same criteria that we approved earlier when determining which Cageless Collocation costs should be treated as recurring and which should be treated as nonrecurring. This should reduce the nonrecurring costs Ameritech proposes for Cageless

[42] 47 C.F.R. § 51.323(f)(7)(B).

Collocation. The increase in the footprint size will increase the recurring costs for Cageless Collocation compared to Virtual Collocation.

This definition of Cageless Collocation will provide a form of collocation that falls between Shared Caged Collocation and Virtual Collocation in terms of cost. This Commission's implementation of Cageless Collocation will encourage the development of facilities-based competition in Wisconsin. Cageless Collocation is an important form of collocation for competitors requiring little in the way of telecommunications space or those wanting to introduce new technology in the marketplace. Specifically, Digital Subscriber Loop (DSL) technology is one that would be ideally suited to a Cageless Collocation arrangement. This technology does not require much floor space, only requiring approximately two relay racks for a configuration that can serve a substantial number of customers. While the monthly recurring charge for Cageless Collocation will be greater than for Virtual Collocation, this form of collocation will potentially provide greater innovation in the kinds of technology a CLEC can deploy. A CLEC will not need to train Ameritech personnel in the maintenance of its brand of equipment, but instead will be able to maintain the equipment itself.

Footprint Size for Virtual Collocation. Ameritech argued that the minimum square footage for Virtual Collocation should be ten square feet. The CLECs argued that the minimum square footage should be nine square feet. The Commission finds that Ameritech's footprint size for Virtual Collocation is reasonable.

The CLECs used 12 inches as a standard depth for an equipment bay. Ameritech asserted that 15 inches is the standard depth needed. TDS Metrocom stated that their interconnection agreement with Ameritech provides for 17 inches. Accordingly, the Commission finds that a

depth of 15 inches would be a better estimate for an average standard depth. Using this figure for equipment depth would increase the necessary footprint.

DSX/DCS Connectivity. The CLECs argued that both Digital Service Cross Connect (DSX), copper connectivity at voice grade, and Digital Cross-Connect service (DCS) should be available collocation options. Ameritech argued that it only offered DSX connectivity. The Commission evaluated the feasibility of DCS service in its review of unbundled loop costs and determined that it cannot conclude that this technology is feasible at this time. Accordingly, the Commission accepts Ameritech's position. The Commission concludes that it is not reasonable to require Ameritech to offer DCS as a standard collocation option. However, the Commission encourages Ameritech to work with the CLECs toward developing this technology.

Reservation of Right to Charge Extraordinary Cost. Ameritech asserted that it should be allowed to reserve the right to charge for extraordinary costs. The CLECs asserted that prices set for collocation should include all costs, and that there should not be any reservation of a right to charge additional amounts. The CLECs pointed out that Ameritech noted in its tariffs, as well as in its backup work papers, that it reserved the right to charge competitors for exceptional (or extraordinary) costs to provide collocation. The CLECs asserted that Ameritech should be required to produce a definitive set of prices for collocation so that a competitor can review what it needs with respect to collocation and know precisely what the price will be.

The Commission finds that a definitive set of prices is consistent with its decision to base collocation prices on average distances and average number of splices. Sometimes Ameritech will incur higher costs. Sometimes Ameritech will incur lower costs. The Model CO provides a

reasonable means of establishing efficiently incurred average costs. Accordingly, it is unreasonable for Ameritech to reserve the right to charge extraordinary costs.

Model Selection. The Commission finds that the adjustments ordered herein will be best implemented by using the CLECs' Collocation Cost Model (CCM). The CCM uses the Model CO to develop average distances and number of splices. The Model CO provides an efficient sharing of facilities between CLEC collocation and ILEC CO equipment. Accordingly, it is reasonable for the Commission's adjustments to be incorporated into the CLECs' CCM.

Switch Vendor Contracts

Ameritech used its then latest contracts with its switch vendors when it calculated its cost to provide unbundled switching. These contracts are for both replacing the remaining analog switches in its network with digital switches and adding additional lines of switching capacity to its existing digital switches. Ameritech has contracts with three switch vendors and each has separate prices for lines in switches that are being replaced (replacement lines) and for adding lines to existing switches to accommodate the growth of the network over time (growth lines). The contracts also list different prices for analog lines and for digital lines. In order to estimate a single average switching price per line, Ameritech created a spreadsheet, Ameritech Regional PIP Switching Model ARPSM, [43] in which it melded together a weighted average of the line types and per-line prices in each of the contracts.

Both Ameritech and the CLECs advocated the use of the prices found in Ameritech's existing contracts with its switch vendors. Because Ameritech's switches are already almost

[43] ARPSM, an acronym for Ameritech Regional PIP Switching Model, is a spreadsheet used to blend together the prices agreed to in its current region-wide contracts (dubbed partners in provisioning or PIP) with three switch vendors.

entirely digital (in Wisconsin they are 100 percent digital), the contracts call for a relatively small number of "replacement" lines and a large number of "growth" lines. Ameritech provided testimony that its contract prices were based upon a forecasted ratio of replacement to growth lines and that both the prices and line ratios from those contracts are the appropriate inputs to use in its cost model.[44]

The CLEC's position is that the ratio of replacement-to-growth lines used in a TELRIC study should be the ratio that would result if all of Ameritech's switches were replaced at once. They base their position on the FCC's definition of TELRIC that the cost estimated should be the total cost to build a network if it were to be built new and that the "T" in TELRIC stands for total demand. If the cost study assumes that all of Ameritech's switches are replaced, there would be a very high number of replacement lines and a relatively low number of growth lines. Ameritech countered that the CLEC proposal includes millions of replacement lines placed under prior contracts and reflects an embedded viewpoint that is inconsistent with forward-looking TELRIC principles.

The CLECs did not vigorously challenge the prices Ameritech used as inputs into ARPSM because, as Ameritech explained, vendors offered low prices on new switches to make a sale, and then make their profits on the sale of growth lines once customers are locked in to a switch. If current contract prices are used with mostly replacement lines, the resulting per-line price for unbundled switching will be much lower than the price proposed by Ameritech.

[44] The prices, line ratios and order intervals in the contracts are confidential. The price from the vendor contracts can be found in confidential exhibit 57c at p. 3. The line ratios proposed by the CLECs are also in exhibit 57c. The order intervals and line ratios used by Ameritech are in the confidential portion of the transcript, vol. 3 at pp. 643 and 648.

Ameritech negotiated its contracts with an estimate of the number of both replacement lines and growth lines it would likely purchase during the life of its contracts. Given these estimates, switch vendors were selected based upon the overall cost for all lines. The large discrepancy between the prices for replacement lines and for growth lines was not a critical bargaining issue. Ameritech provided testimony that if it were to negotiate a contract where most of the lines were to be replacement lines, the vendors would have been forced to charge higher prices for those lines in order to recover their costs. It declined to speculate about what those new replacement prices would be.

The CLEC's countered that if the contracts were negotiated today for all of Ameritech's lines, the replacement line prices could be even lower because switch prices have been declining, Ameritech has even greater bargaining power after its merger with SBC, and there would be vigorous competition by vendors to sell as many of the lines as possible. The CLECs emphasized that these facts were inconsistent with the higher UNE prices that resulted from Ameritech's model, which are from 192 percent to 322 percent higher than in its current tariffs for unbundled switching.

Ameritech has consistently maintained that the actual factors it has experienced in operating its network are the most efficient, forward-looking inputs that should be used in its TELRIC studies. It follows from this assumption that Ameritech's proposed inputs into its cost models for switching represent the lines it expects to purchase during the life of its contracts, that these actual numbers are the best available, and there is no good evidence to justify the use of any other numbers.

In support of their position about the need to account for all of the lines in Ameritech's switches, the CLECs introduced evidence that the Michigan Commission, in its review of the same Ameritech models, ordered Ameritech to assume that 70 percent of all lines would be replacement lines.

The Commission finds that Ameritech did not accurately reflect the cost to provide switching in its entire network and should have estimated the cost to purchase all of its switches. However, because there was not enough evidence on the record to make a reasonable inference about a specific price that Ameritech would be able to negotiate for replacement lines under those circumstances, the Commission finds that the appropriate prices to use for growth and replacement lines should be those negotiated in Ameritech's current contracts. However, the Commission also finds that it would be reasonable to assume that if Ameritech were to contract to replace all of its switches, the prices for replacement lines would be higher than the prices in Ameritech's contracts.

The CLECs provided an estimate of the percentage of Ameritech's lines that would be replacement lines if Ameritech were to replace all of its switches. Ameritech did not challenge the CLECs' estimate. The Commission finds that the most reasonable way to implement its finding that replacement line prices would be higher under the assumption that Ameritech would replace all of its switches is to compensate for the higher price by reducing the CLEC estimate of the ratio of replacement lines down to 70 percent. This ratio is consistent with the ratio ordered by the Michigan Commission and with the ratio of replacement lines to growth lines in Ameritech's network today.

The prices Ameritech pays for its switches depend, to some extent, on the time intervals in its contracts to add lines. Shorter intervals result in higher prices and longer intervals lead to lower prices. The CLECs pointed out that the Ameritech-Lucent contract has a short interval, resulting in a substantially higher price as compared to other switch vendors with longer intervals.[45] They also recommended longer intervals in the contracts for Nortel and Siemens switches. Ameritech agreed that the Lucent interval was inappropriate and that the longer interval proposed by the CLECs was more reasonable, but that the use of longer intervals for Nortel and Siemens switches was not consistent with the CLEC's position on fill factors and spare capacity and its request to have rapid deployment of UNEs. The Commission finds that Ameritech should use the order interval recommended by the CLECs and agreed to by Ameritech for its Lucent switches, and that the order intervals used by Ameritech for its Nortel and Siemens switches are in a mid-range interval and are, therefore, appropriate.

Ameritech has been consistent in its position that the correct inputs into its cost models should reflect, as much as is possible, the results from its latest contracts and business practices. In order to calculate the average per line price for switching, one variable in the model is the number of lines to be purchased from each vendor. Ameritech used the same percentage of lines as it now purchases as part of its latest vendor contracts.

The CLECs did not challenge the vendor selection percentages until they examined the cost developed by Ameritech for trunk termination. At that point, they suggested that in order to develop the lowest cost network, Ameritech should purchase more lines from the lowest-cost vendors and fewer lines from the higher-cost vendors. Ameritech countered that there are

[45] The order intervals in the contract and the amount by which prices were increased are confidential. They are found in the confidential transcript at pp. 643 and 2659-2660.

numerous factors that go into the decision to purchase a switch from a specific vendor and relative price is only one of these factors.

The Commission determined that there was no evidence to indicate that Ameritech was not making efficient investments in it switches and was reluctant to second guess the decisions of Ameritech's engineers. It finds that the blend of switches purchased from different vendors in Ameritech's network is the appropriate blend to use in developing the cost for unbundled switching and for transport.

In Ameritech's contracts, the prices for replacement and growth lines depend upon whether those lines are analog lines or digital lines. This makes the mix of analog and digital lines in the ARPSM model an important factor in the calculation of the average cost per line. Ameritech advocates using the same mix it has in its existing network and that are in its vendor contracts.[46] It again makes the point that the contract prices were based upon this assumption, and if the mix is changed, the prices in the contracts would need to change.

The CLECs advocated a mix of 55 percent digital lines and 45 percent analog lines because this mix is more forward-looking than the mix Ameritech currently has in its network. Because this provides a much greater percentage of digital lines, which are less expensive than analog lines, it will produce a lower average cost per line. The CLECs provided testimony that Ameritech is rapidly converting its distribution network from analog to digital lines, and because this is the future for Ameritech, it is the network configuration that should be assumed for TELRIC purposes.

[46] This weighting can be found in confidential transcript vol. 3 at 359.

The Commission agrees with the CLECs that the mix of analog and digital lines for switching purposes should correspond to the type of forward-looking network Ameritech is building. In the Unbundled Loop section of this order, the Commission finds that in the long run, Ameritech's network will have approximately 50 percent of its lines on IDLC which terminates directly in the switch, and 50 percent of either individual copper lines or on UDLC, both of which terminate on the MDF and enter the switch as analog lines. Given the decision to use a 50/50 split between analog and digital lines for distribution purposes, the Commission finds that the same split between analog and digital lines should be used for estimating the cost of unbundled switching.

Switch Cost Model Inputs

Ameritech's switch model, ARPSM, incorporated fill factors, right-to-use, revenue ready, and other fees into its per-line calculation. Ameritech also derived a usage-sensitive cost from the per-line costs in its contracts. The per-line price and usage sensitive costs were inputs into a second model, Network Usage Cost Analysis Tool (NUCAT), which calculated both a recurring monthly per-line cost and usage sensitive costs where annual cost factors for depreciation, maintenance, taxes, and return on investment are applied. The resulting costs are increased by applying a joint and common cost factor. The CLECs did not challenge the calculations in Ameritech's switching models but vigorously disagreed with the inputs and assumptions Ameritech used.

The first of these factors to be considered is the appropriate fill factor[47] for the analog and digital line ports and for trunk ports. Fill factors do not have the same impact upon the ultimate

[47] A fill factor is an input assumption regarding the level of utilization of a facility.

cost of unbundled switching as they do for loops because the economies of installation and degree of investment 'lumpiness' are not as big. Under Ameritech's contracts, the switch vendors carry the inventory cost and supply lines on an as needed basis. For this reason, the CLECs suggest that there is no need to apply a fill factor at all. Ameritech correctly points out that not all lines are revenue producing because some are needed for testing and other administrative purposes and a minimal inventory of lines is needed to avoid the need to use higher emergency prices for lines. In addition, digital lines are multiplexed in 24 line bundles, so there will be some unused capacity caused by this lumpiness.

Ameritech's proposed fill factor is a blend of separate fill factors for analog and digital lines and is based on the blend of lines in its contracts.[48] Because the Commission did not accept Ameritech's blend of digital and analog lines, separate fill factors are needed for each type of line. The Commission finds the fill factor Ameritech used for analog lines is reasonable because analog lines are ordered on a one-to-one basis from the vendors as needed. The Commission finds that a fill factor of 80 percent for digital lines is a reasonable estimate to account for lines needed for inventory, administrative purposes, and for the fact that not all 24 loops in each multiplexed line would be in service.

The CLECs' position on the fill factor for trunks, which are entirely digital, was also 100 percent, while Ameritech used a fill factor of 94 percent. Given that these two factors are not that far apart and that there will be some trunks that are not completely filled, the Commission finds that Ameritech's fill factor is reasonable.

[48] The fill factors can be found in the confidential portion of the transcript at p. 487.

In the past, elaborate mathematical models have been used to determine average lives and salvage factors for accounting purposes, primarily for rate-of-return regulated entities. The parties in this docket have not produced such depreciation studies. Competitive companies typically do not rely on depreciation studies to determine average lives; instead they adopt depreciation rates that best meet their need to recover investment costs while also showing a profit. These lives typically are much shorter than the average life of a particular piece of equipment. The switches deployed by Ameritech will be capable of functioning for many years, so the depreciation rate decision will be based primarily on assumptions about the economic life of circuit switching, rather than its physical life. The main question is when will circuit switches become obsolete due to a compelling economic case for the use of advanced packet and optical switches. There is little objective evidence on the record to answer this question.

Ameritech based its switch depreciation life on the range of 9 to 12 years adopted by the Commission in Docket 05-DT-102, choosing the low end of that range. Ameritech's position is that the Commission has already addressed this issue and there was no need to review its decision now.

The CLECs advocated the 12 to 18 year range for the economic life of digital switches approved by the FCC for use in universal service cost models. They noted that the FCC advocated the use of consistent cost methodologies for determining costs for both universal support and unbundled network elements.[49] They also noted that Ameritech's contracts for the same switches extends over a 7-year period and suggested that if Ameritech really expects its

[49] Report & Order in the Matter of the Federal-State Joint Board on Universal Service, FCC 97-157, (May 8, 1997), par. 251; Also see DA 97-2383 (Nov. 12, 1997).

switches to become economically obsolete within a short time, they would not be purchasing the same switches at the end of the period that they purchased at the beginning.

Where there is conflicting evidence and a range of reasonable possibilities from which to choose, the Commission considers factors such as the impact of the UNE rate on consumer choice, competition, economic efficiency, infrastructure investment, economic development, and universal service.[50] The Commission has already determined in its depreciation order that service lives within a range of 9 to 12 years are reasonable. Similarly, the FCC has determined that a service life within a range of 12 to 18 years would be reasonable. Noting that the two ranges overlap at 12 years, the Commission finds that using a depreciation rate based on an average service life of 12 years would allow Ameritech an opportunity to recover its investment without preventing it from investing in newer switching technologies when they become economically feasible. The rate will also reduce the price it charges for unbundled switching, making it easier for competing providers to access customers served by integrated digital loop carriers through a combination of unbundled loops and switching.

Ameritech used a 3-year average of its actual maintenance expense and investment levels from 1996 to 1998 to create a ratio of expenses to investment. It then increased the expenses each year up to 2001 by an estimate of labor inflation because maintenance is a labor-intensive activity. Investments were adjusted by growth rates and telephone plant price indices. Because actual investment has not been growing, but the inflation rate for labor has been higher than the overall inflation rate, the end result is a maintenance factor that increases each year.

[50] These public interest factors are found in Wis. Stat. § 196.03(6).

The CLECs point out that Ameritech's actual maintenance to investment ratio has declined by an average of 2.1385 percent each year over the past ten years because newer switching equipment is not as labor intensive as the older equipment. They maintain that the best forecast of future expenses would take the 1998 ratio and decrease it by 2.1385 percent each year up to 2001 for a total reduction of 6.55 percent from the 1998 factor. They also suggest that Ameritech's actual maintenance expenses are not forward-looking because they include the cost to maintain obsolete equipment. They recommend removing the obsolete equipment and the associated expenses from the calculation before applying the annual reduction.

The Commission cannot accept the method used by Ameritech to estimate maintenance expenses because it had the effect of increasing the expenses every year, even though Ameritech's actual expenses for switching have been decreasing. The Commission also expects newer switches to be much less labor intensive than older equipment. The Commission is not convinced that the CLEC proposal was correct because it did not make an allowance for inflation. The Commission also is not willing to do a straight extrapolation of maintenance trends into the future out of concern that Ameritech has reduced its maintenance expenditures to the point that service quality has suffered. The Commission finds that a reasonable estimate of maintenance expenses for switching is to decrease Ameritech's 1998 3-year average expense ratio by 4 percent.

In Ameritech's contracts with its vendors, right-to-use fees are assessed on all of the replacement lines installed with a new switch. Ameritech spread the fees over all lines by a weighting process that assigned growth lines a zero weight. The CLECs objected to this weighting process and advocated a strict application of the contract terms which only assessed

the fees on the small number of replacement lines in switches that are actually replaced. This is inconsistent with the CLECs' position on other issues where CLECs do not want a strict application of contract terms. The Commission suspects that CLECs are attempting to avoid the increase in right-to-use fees that would result if the Commission agreed with their position that the study should assume that all of Ameritech's switches are replaced. The Commission finds that it is reasonable to assume that right-to-use fees would be assessed on the 70 percent of all Ameritech lines that the Commission earlier found should be replacement lines and that Ameritech's method of averaging the fees over all lines is appropriate.

In the contracts for both new switches and additional capacity on existing switches, the vendors agreed to do all of the engineering, installation and testing so that Ameritech obtains its switching in a ready-to-use condition. Revenue-ready fees are designed to recover the cost for installation and testing. The CLECs did not challenge the legitimacy of the fees, but did object to the manner in which Ameritech "levelized" them so that an equal amount was assessed to each line. In the vendor contracts, the fees vary based upon when the line is installed. The Commission finds that the levelizing process used by Ameritech is a reasonable way to develop a single fee to add to the cost of each line.

Even though Ameritech's vendors do all of the installation and testing necessary to make its new switches and lines "revenue ready," Ameritech provided evidence that it still incurs costs to coordinate the process. It recovered these costs in its cost study by adding a small "in-plant" factor to the cost of each line. The CLECs argued that because the vendors were contractually obligated to make the switches revenue ready, there should be no additional costs to Ameritech. Ameritech responded that the CLEC witness had only looked at its vendor contracts for digital

loop carrier equipment, not for switching and that Ameritech had documented the additional costs for adding switching.

The Commission finds that it is reasonable for Ameritech to incur some costs that are not included in its vendor contracts and that the use of in-plant factors is a reasonable way to include these costs its cost study.

Rate Design for Unbundled Switching

There are certain functions that are necessary to operate a telephone network in addition to loops and the ability to switch calls. These functions include: (1) the use of a main distribution frame; (2) telephone numbering; (3) call intercept; (4) directories; (5) methods and procedures development; (6) report processing; and, (7) billing systems development. The CLECs agreed that these costs are legitimate, but argued that they are included in Ameritech's mark-up for joint and common costs and no additional mark-up to the cost of a line port is justified. It is clear that at least some of these costs are not included in the accounts that developed joint and common costs. For example, the use of the main distribution frame would not be included in the joint and common accounts. The Commission would not accept the CLECs' blanket argument that all those costs are included in the joint and common accounts. The CLECs could not provide evidence to document that Ameritech is double recovering these costs and there is not enough detail about joint and common costs in the record for the Commission to reach that conclusion.

The CLECs also argued that Ameritech's costs for these functions need to be revised to account for the changes in general cost study factors such as cost of capital and depreciation that the Commission finds appropriate in this docket. The Commission finds that it is reasonable to

recover the costs of these functions in the switching UNE, but Ameritech needs to revise its costs to incorporate the changes to its cost model that are ordered in this docket.

Ameritech developed rates for many different types of ports in addition to the basic line port. The CLECs did not challenge the way costs were assigned to the different types of ports and the Commission finds that the costs developed by Ameritech for its different types of switch ports are reasonable after they have been adjusted by the same cost factors applied to the cost of a basic port.

Nearly every jurisdiction that has established tariffs or approved interconnection agreements for unbundled switching has included both per-line and a minute-of-use charges. Ameritech maintained that the FCC made this rate structure a federal policy. In its *Local Competition Order*, the FCC found that it is reasonable to include a flat rate for line ports, "…and either a flat-rate or a per-minute usage charge for the switching matrix and for trunk ports."[51] Ameritech also pointed out that the option to recover switch costs through either flat-rate or per-minute charges is included in FCC regulations 47 C.F.R. § 51.509(b) and that the FCC set a default range for usage-based switching costs.[52]

This rate structure appears to be a historical practice that originated with analog switches that clearly had costs that vary with usage. While the Commission recognizes the precedence set by other states and accepted by the FCC for the use of per-minute charges in the recovery of the cost of a switch, it finds that there are compelling policy reasons to break from this practice.

[51]Local Competition Order at par. 810.

[52] The proxy pricing rules that contained the default range were later vacated by the Eighth Circuit Court in *IUB3*.

The Commission does not interpret the FCC rules and orders to mandate the use of per-minute charges as much as they permit such charges.

Digital switches are essentially large computers, and as the cost of computer memory has declined, so has the cost of extra capacity on the switch. The net result is that switch manufacturers design enough switching fabric and processor capacity into their switches to serve the maximum lines that can be installed on the switch without blockage, based upon the expected use per line. In its own contracts with its switch vendors, Ameritech agreed to pay for its switches on a per-line basis without any usage fees, but there are provisions that assess extra charges when Ameritech needs to order additional equipment to accommodate usage growth.

Ameritech provided testimony that internet growth is causing average usage per line to increase and asked its vendors to explain what portion of their switches vary with usage and to estimate how much the cost would increase if usage per line were to double. The general response was that additional investment would be needed for the analog to digital conversion, but otherwise the switches were not capacity restricted up to a very high level. The CLECs responded that Internet growth is not unexpected and that during the life of its switch contracts, Ameritech's Project Pronto plans call for moving the bulk of its Internet traffic off of its circuit switches. Ameritech did not provide any evidence that the requirement to provide unbundled switching caused it to add more capacity per line to its switches or otherwise increased its contract costs. It also did not provide any evidence that customers would significantly increase their minutes of use merely because they became CLEC customers through the use of unbundled switching.

The Commission finds that there would be some additional costs to Ameritech if it were to face a large increase in usage per line. The Commission also finds it reasonable to assume that the current switches were engineered with sufficient capacity so that the likelihood that Ameritech will actually incur significant additional costs because of increased usage per line is quite small. Because of the way the switches are engineered and the way Ameritech pays for its switches, there is no compelling cost or engineering rationale for requiring a rate design that includes a minute-of-use charge.

Without a compelling cost-based rationale for requiring a usage charge, the Commission considered other policy-based reasons for usage charges. These policy considerations include the impact that the rates will have on the efficient use of switching resources and the ability of competitors to access Ameritech's unbundled loops and compete for customers. The Commission recognizes that retail customers have consistently resisted having to pay usage charges for local service. The Commission is also concerned that the use of the Internet is restricted when customers are concerned about paying per-minute charges.

Ameritech points out that the usage charges it recommends are much smaller than the per-minute rates that some Internet users have faced. Ameritech argued that it needs the flexibility provided by usage charges to avoid the risk that it will need to absorb the costs of increased usage until its UNE rates could change, but this concern was not so strong that Ameritech included per-minute charges in its contracts with its own retail customers. The CLECs pointed out that they will be at a significant disadvantage in competing for large customers if they are forced to pass along usage charges while Ameritech offers a flat rate.

Ameritech is also concerned that with flat rates, CLECs would have an incentive to sign up the biggest users while leaving Ameritech with the remaining, primarily residential, users. The CLECs countered that the incentive to focus on big users comes from the fact that these users generate the most money. Without flat rates for switching, they have to make assumptions about the average length of a call and will only be able to compete for customers whose usage is below average.

The Commission, while reluctant to go against the traditional rate structure for unbundled switching, finds that there are compelling policy reasons for the use of a flat per-line-port charge, and that the cost-based rationale for a per-minute charge is not strong enough to overcome these policy goals. The primary policy concern is that in order to compete with Ameritech, the CLECs need to pay for their unbundled switching in the same way that Ameritech pays for its switching.

Transport

The transport portion of Ameritech's network carries traffic between switches and to the networks of other companies. Its primary cost elements are the fiber optic cables or trunks and the electronics to light the fiber and terminate the signals, including the trunk ports on Ameritech's switches and tandem switches where applicable. Transport may be: (1) direct, where a single party uses the entire capacity of the fiber; (2) shared, where two or more parties share the capacity; or (3) dark fiber which does not terminate on Ameritech's switches. With direct transport, the cost of the fiber is a straight-forward calculation that varies with distance. Shared transport is more complicated because the costs are split between users based upon minutes of use. Dark fiber is similar to direct transport in that the UNE is a single fiber, but the

origination and termination costs for the use of trunk ports into the switch are replaced by the cost of electronics necessary to "light" the fiber.

Most of the cost factors for transport are similar to those developed for the switch and for digital loops, and the Commission finds that it would be reasonable to apply the same factors it approved for those UNEs to the calculation of transport costs. These include fill factors, depreciation, joint and common costs, the ratio of replacement and growth lines, and the blend of equipment from different switch vendors. The parties also agreed to base the estimate for trunk growth on Ameritech's forecast for its growth in interoffice traffic, to use the forward-looking electronics in Ameritech's study, and agreed on the manner in which transport costs, including dark fiber, are to be recovered. The Commission finds that these agreements are reasonable and only a few transport-related issues remain for the Commission to decide.

The shared transport per-minute charge is based upon an estimate of the average distance a call will be transported. Ameritech calculated this distance by using a weighted average of all calls transported between Ameritech's local switches, between Ameritech local switches and its tandem switches, between Ameritech switches and non-Ameritech tandems, and between Ameritech local switches and non Ameritech local switches. In its calculation, Ameritech used both routes that carried only local traffic and routes that carried a blend of local and toll calls.

The CLECs contested Ameritech's calculation, arguing that by including toll traffic with local traffic, Ameritech overstated the average call distance. The CLECs assumed that the average distance for a call that goes directly between local switches is less than the average distance for a call that goes through a tandem switch. If this assumption is correct, it follows that including toll traffic, which primarily uses tandems, would overstate the average call distance.

Ameritech responded that it did not include any facilities that only carry traffic going to interexchange carriers in its weighted average and that of the routes that carry either local or blended local and toll traffic, only 2.89 percent of the calls are routed through a tandem. It also pointed out that the average distance of a tandem-routed call is less than the average distance of directly-routed calls. This means that the inclusion of blended traffic has a negligible impact on the average call distance, and the actual impact does not necessarily lead to a longer average call distance.

The Commission finds that the impact of including blended traffic in the calculation of average call distances for shared transport does not have a material impact on the end result, and for this reason, finds that the average call distances as calculated by Ameritech are reasonable.

There is also an issue concerning the terms under which Ameritech must make dark fiber available to its competitors. Ameritech has already reached an arbitrated agreement with AT&T, one of the CLECs in this docket, which includes terms under which dark fiber is to be provided. Ameritech proposed that the Commission adopt the terms of that agreement. The CLECs' position is that the FCC has already decided in 47 C.F.R § 51.319(d) that dark fiber should be provided in a nondiscriminatory manner to any requesting CLEC, just like other interoffice transport UNEs. The CLECs further argue that the Commission decided this issue in the OSS docket, 05-TI-160. The Commission agrees that this decision was made in the OSS docket and is not interested in revisiting that decision. Therefore, the Commission finds that dark fiber should be made available under the terms ordered in Ameritech's OSS docket, 6720-TI-160.

Reciprocal Compensation

Reciprocal Compensation refers to payment for calls that originate with the customer of one local exchange company and terminate with a customer of another local exchange company. If there is no reciprocal compensation, then the company that terminates the call receives no revenue from the use of its network. This would not be a problem if the traffic between companies is roughly in balance, but is a serious problem if one company terminates much more traffic than it originates. If the minutes-of-use exchanged between companies is not in balance, there can be distortions to the market for local service if the rate charged is either much higher or much lower than the cost of terminating the call.

The Commission issued an order in docket 05-TI-283[53] that established a bifurcated rate structure for reciprocal compensation, with separate rates for call setup and call duration. At about the same time, the FCC opened its own docket to look at rates for reciprocal compensation.

Ameritech's position is that the Commission should implement its order in docket 05-TI-283 by adopting separate rates for call setup and call duration using the cost information from this docket. The CLECs' position is that the Commission should not decide reciprocal compensation rates in this docket; instead, it should keep the rates in the existing interconnection agreements. The CLECs argued that the record is not sufficient to develop call setup and duration rates because the Commission found that most of the costs Ameritech incurs for the switching portion of call termination do not vary with usage. The CLECs also argued that the Commission should hold off on establishing new rates for reciprocal compensation because its

[53]Investigation of the Compensation Arrangement for the Exchange of Traffic Directed to Internet Service Providers, docket No. 05-I-2831, (rel. Nov. 8, 2000).

order in docket 05-TI-283 has been superceded by the FCC's latest order on this issue.[54] They believe that any rates approved in this docket with separate charges for call setup and duration are not likely to be in compliance with the FCC's rules and that new rates should not be adopted until all appeals of the FCC's order are completed.

The parties' positions appear to be influenced by the relative prices found in existing interconnection agreements for reciprocal compensation. Ameritech maintains that these rates, which were based upon Ameritech's old cost studies for switching, are well above its cost to terminate calls. Ameritech is concerned that with high termination rates, the CLECs have an incentive to contract with Internet service providers (ISP's) that only terminate traffic. This incentive is magnified by the fact that an average Internet connection lasts much longer than an average voice call. The Commission is also concerned that the CLEC's preference for low per-line rates for unbundled switching is not consistent with their preference for high per-minute rates for terminating calls that use the same switching functions.

The Commission finds that it should implement its order in docket 05-TI-283 in this docket. The Commission thoroughly addressed the issues related to reciprocal compensation before issuing that order, including the possibility that the FCC could approve its own rules for the termination for Internet traffic. Further, the recent FCC order allows ILECs to elect federal price caps. If an ILEC does not elect the federal pricing scheme, pricing defaults to the state established rates for reciprocal compensation. The Commission also finds that the best policy for reciprocal compensation will be to implement its decision by using the best information available in this docket.

[54] Order on Remand and Report and Order on Intercarrier Compensation for ISP-Bound Traffic, FCC 01-131, (April 27, 2001).

The Commission recognizes that Ameritech did not conduct a separate cost study to establish its costs for call setup and duration. Instead, it made adjustments to some of the results from its cost study for switching. For call set up, it calculated the cost to create a billing record by dividing measurement and billing costs by the number of originating messages. A similar calculation was used to determine the cost to establish a circuit with its SS7 network costs. The CLECs did not challenge these calculations, but did challenge the way Ameritech allocated usage-based costs to call setup. Ameritech used the usage-sensitive costs from its switch cost study as the basis for its duration cost. As discussed above, the Commission did not accept Ameritech's usage-sensitive costs, finding that the bulk of Ameritech's costs for digital switching do not vary with usage. The Commission is left with the option of accepting Ameritech's usage costs for reciprocal compensation purposes or retaining existing reciprocal compensation rates until better cost information becomes available. Coupled with the Commission's decision that UNE costs for unbundled switching should be recovered through a flat rate per line, a decision to retain the current rates for reciprocal compensation would create even greater distortions in the market for competitive local services than were found to exist in docket 05-TI-283.

The CLECs' criticism of Ameritech's allocation of usage costs to the call-setup function focused on evidence suggesting that Ameritech reviewed its old cost separations studies and concluded that in an average of all call attempts, almost one fourth of the off-hook time is "non-conversation" time. They argued that if a cost is a usage cost, it should be in the duration charge, and that the allocations in separations studies have been thoroughly discredited because they were not cost-based.

Ameritech responded that "non-conversation" time consists of activities such as dialing a call and waiting for a response, including the time it takes to listen to a phone ring and the busy signal when a call is not completed. Ameritech's position is that because this "non-conversation time" does not vary with the duration of a call, it should be included in the charge for call setup. Ameritech pointed out that if these costs are included in the duration portion of the termination charge, they will be recovered many times over on calls that access the Internet because, on the average, Internet calls are significantly longer than voice calls.

The Commission finds that the costs for non-conversation time should be recovered once per call attempt as part of the charge for call setup. The Commission also finds that for purposes of establishing a duration charge for reciprocal compensation, it is reasonable to use the usage-based costs that Ameritech isolated in its switching cost study, adjusted for the cost factors approved in this order. It also finds that the factor that Ameritech used to allocate its usage-related costs between conversation time and non-conversation time is reasonable.

Project Pronto

The issue before the Commission is first expressed as whether Project Pronto should be unbundled into incremental network elements, and thereby, made available to the CLECs in piece parts. The Commission, in deciding this matter, considered the many legal, technical, and public policy arguments presented by the parties in their briefs and oral arguments, as well as the voluminous evidentiary record. The Commission determined that it would not require unbundling into incremental piece parts but would require unbundling as an end-to-end UNE. The respective positions of Ameritech and the CLECs are summarized as follows.

Ameritech contended that Project Pronto should not be unbundled as a network element for legal, technical, and public policy reasons. Ameritech asserted that the federal legal standards for unbundling packet switching, in particular, and network elements, generally, have not been met and, therefore, unbundling of Project Pronto cannot be ordered.

The CLECs argued for the unbundling of Project Pronto, either as separate piece elements, or as an end-to-end UNE. The CLECs pointed out that Ameritech is using a relatively limited exception that applies only to unbundling packet switching, 47 C.F.R. § 51.319(c)(5),[55] to deny CLECs access to the entire Project Pronto network. The CLEC's claim that, without access to the Project Pronto NGDLC architecture, they will be impaired in providing high speed data--DSL service so as to be uncompetitive in the advanced services market.

Project Pronto is described by Ameritech as a fiber "overlay network" that employs NGDLC electronics to extend the offering of broadband services beyond the technical limits of copper facilities. It represents a $6 billion infrastructure deployment throughout the13-state region of SBC (Ameritech's parent company). Through Project Pronto, Ameritech plans to make DSL technology available to millions of residential and business consumers who cannot receive any high speed DSL service today by extending the ability to transmit high speed data beyond the 18,000 feet limit of copper facilities.

The NGDLC-related portion of Project Pronto consists of the following facilities, beginning at the end-user's premises:

- Copper distribution pairs from an end-user customer's premise to a cross connecting Service Area Interface (SAI);

[55] Hereafter, references to a Rule (e.g., Rule 31), shall mean the corresponding section of Title 47 of the Code of Federal Regulations.

- SAIs to cross connect copper distribution to copper feeder pair;
- Copper feeder pairs between an SAI and a Project Pronto remote terminal (RT) in the field;
- NGDLC equipment deployed in the field within Project Pronto RTs that, among other things, digitizes and packetizes data signals from the end-use customer and provides the capability to offer both plain old telephone service (POTS) and DSL-based data services over fiber facilities;
- Separate fibers between the RT and the CO for voice and DSL traffic;
- Optical Concentration Devices (OCDs) deployed in the COs to provide packet switching functionality, including routing and aggregation, needed for high speed DSL traffic; and
- Additional NGDLC Central Office Terminals (COTS) used to handle the connectivity needed for voice traffic to the ILEC local switch and/or CLEC collocation equipment.

The central features of Project Pronto are the (1) NGDLC systems installed at RT sites; (2) Asymmetrical DSL (ADSL) Digital Line Unit Cards (ADLU), plugged into the NGDLC system; (3) OCDs in Ameritech's COs for data traffic; (4) CO NGDLC for voice traffic; and (5) additional fiber transmission facilities between the CO and RTs. Through these advanced service facilities, Project Pronto will provide high-speed Internet access, among other services, to end-user customers who cannot be reached by copper facilities for DSL service and will provide higher transmission speeds than some copper facilities are capable of providing to other customers.

This section will provide a technical overview of Project Pronto, identify the federal and state legal standards governing the unbundling issues, summarize the evidence and the parties' respective positions regarding the evidence and application of the legal standards, and finally, set forth the Commission's determination.

Technological Changes and the Project Pronto Design. The existence of rapidly changing technology makes the issue of unbundling Project Pronto difficult to evaluate in the context of federal standards regarding DSLAMs. A DSLAM concentrates signals coming through the High Frequency Portion of the Loop (HFPL) and routes the traffic to an Asynchronous Transfer Mode (ATM) switch that can switch this large bandwidth, high speed, traffic--something conventional switches are not capable of handling.

Initially DSLAMs were placed in a CO to be at a point where a single DSLAM could concentrate all the traffic coming into the CO. This arrangement relied on copper loop facilities specific technical requirements including length limitations. However, if a DSLAM is located at an RT and has fiber on which to transmit its signal to the CO, it can extend the ability to provide high speed service further from the CO by having a smaller portion of the loop made up of copper. However, the counter balancing factor to placing a DSLAM in the RT is that it will have less traffic to concentrate, and to serve all lines in the CO, multiple DSLAMs will be needed.

The technological advance reflected in Ameritech's Project Pronto architecture is that it has implemented electronics that provide DSLAM functionality through the use of Next Generation DLC (NGDLC). Using NGDLC technology, one piece of electronics is put in the RT and another corresponding piece is put in the CO. In combination, these provide DSLAM functionality.

An added feature of the NGDLC is that for incoming copper facilities, it separates the data carrying HFPL from the low frequency voice portion of the loop and directs both the data and voice transmissions over separate fibers back to the CO. So, Ameritech's NGDLC serves both voice and data traffic, making it an efficient device to use remotely in the loop structure. In addition, as the functionality is split between the loop structure and the CO, it is hard to fit this technology into the federal standards using the language that discusses a DSLAM as either located in the loop structure or located in the CO and not the functionality spread between the two locations.

The Impair Standard under 47 U.S.C. § 251(d). The Telecommunications Act of 1996 (the Act) and the FCC's *UNE Remand Order* set forth the legal standards for unbundling network elements. In determining what elements to unbundle, 47 U.S.C. § 251(d) requires the Commission to consider at a minimum (1) whether the failure to provide access to non-proprietary elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer, and further, (2) whether access to proprietary network elements is necessary to prepare such services. The higher necessary standard is only applicable when evaluating proprietary technologies. The *UNE Remand Order* and accompanying regulations set forth the circumstances that prescribe the necessary and impair standards for determining when a portion of the ILEC network must be unbundled.

No evidence was presented that the Project Pronto elements are proprietary to Ameritech, so the Commission can use the lesser impair standard under 47 U.S.C. § 252(d)(2)(B) to determine whether further unbundling is required. The FCC defines "impaired" in 47 C.F.R. § 51.317(b)(1) as "lack of access to that element materially diminishes a requesting carrier's ability

to provide the services it seeks to offer." Pursuant to 47 C.F.R. § 51.317(b)(2), considerations in this determination include whether alternatives in the market are available as a practical, economic, and operational matter and will rely upon evaluation of factors such as cost, timeliness, quality, ubiquity, and impact on operations in making that determination.

In considering whether non-proprietary elements under the impair standard should be unbundled, the Commission may also consider the additional factors set forth in 47 C.F.R. § 51.317(c). Those factors include whether the unbundling of network elements will promote the introduction of competition; facilities-based competition, investment and innovation; reduced regulation; and certainty that the element will be made available; and whether unbundling of the element is administratively practical.

The FCC examined the Project Pronto architecture in its *Project Pronto Waiver Order.*[56] That order limited its findings to the specific requests to permit the SBC ILECs to own the plug-in cards and optical concentration devices instead of the affiliates. The FCC specifically found that the *Waiver Order* does not constitute any finding or determination with respect to SBC's compliance with 47 U.S.C. § 251. Accordingly, the Project Pronto Waiver does not affect the Commission's evaluation of Ameritech's unbundling obligations.

In performing its impair analysis, the Commission looks to where the FCC has applied its impair standard to Operator Services and Directory Assistance (OS/DA) in determining that OS/DA could be dropped from the national list of required unbundled elements. The FCC

[56] In the Matter of Ameritech Corp. and SBC Communications, Inc., FCC 00-336 (Sept. 8, 2000).

evaluated alternatives available in the marketplace. The following is a summary of the FCC's evaluation:

> There are a substantial number of regional and national alternative providers of OS/DA service that are serving a variety of customers, including some incumbent LECs and IXCs. We do not find differences in cost, quality, timeliness, and ubiquity that would lead to the conclusion that requesting carriers' ability to provide local exchange and exchange access services would be materially diminished without access to the incumbent's OS/DA service as an unbundled network element. Rather, we find that these alternative sources of OS/DA service are available as a practical, economic, and operational matter.[57]

Using this same kind of analysis in applying the impair standard, the Commission evaluates the possible alternative providers of elements needed to provide DSL services. The Commission concludes it can order the Project Pronto network elements to be unbundled and made available to CLECs on a non-discriminatory basis as the CLECs would be "impaired" in offering the advanced services without unbundled access.

CLECs Position on the Impair Standard. The CLECs presented evidence that they will be impaired in the offering of advanced services without access to the Project Pronto architecture on an unbundled basis. They conclude that the entire NGDLC loop from the customer premises to the CO should be available to CLECs on an unbundled basis. They also concluded Ameritech can and should make the various components of the NGDLC loop available to CLECs on an unbundled basis. Specifically, CLECs request that the Commission order unbundled access to the following components: (1) subloops from the customer premises to the RT; (2) Ameritech-owned plug-in line card, or the ability of the CLEC to virtually collocate a plug-in card at the NGDLC; (3) lit fiber subloops from the RT to the CO including Permanent Virtual Circuits (PVCs) and Permanent Virtual Paths (PVPs); (4) a port on the Optical Concentration

[57] UNE Remand Order at par. 464.

Device; and (5) transport to the CLEC's network. With respect to these requests, Ameritech asserted it is not required to provide access to the NGDLC in the field and in particular will not allow a CLEC to plug in a line card at the NGDLC.

CLECs argued that, even without the impair test, it is intuitive that Project Pronto network has a "UNE nature" which dictates the unbundling of the Project Pronto network. They started with the premise that the loop plant of the incumbent LECs remains the "quintessential bottleneck facility." Ameritech is required to unbundle its local loop in order to provide competitors with full access to the features and capabilities of the loop plant (whether its configuration is all copper or a mix of copper and fiber).

The CLECs believe that Ameritech's offer of its Broadband Service Offering proves Project Pronto is a network element to be unbundled because: (1) it can provide a specific customer with the Broadband Service just like any other UNE based offering; (2) the service can be described as a "combination of network elements;" (3) the service would be ordered from Ameritech by CLECs in the same manner as UNEs are ordered; and (4) the service will be offered (but only voluntarily) at TELRIC prices by Ameritech. It is clearly practical from an administrative perspective to offer the end to end Broadband Service Offering as a UNE.

Evaluation of Ameritech's Proposed Offerings. Ameritech argued that the CLECs have the following options, and accordingly, Ameritech will not offer access to its NGDLC: (a) Ameritech's Broadband Service offering; (b) copper subloops with DSLAMs remotely collocated at remote terminals through an engineered controlled splice (ECS); (c) all copper loops; or (d) building their own facilities to provide advanced services to their own customers. Ameritech believes these alternatives are available as a practical, economical, and operational

matter. The CLEC response to each of these alternatives is discussed below in terms of the alternatives available in the market along with their analysis of the impairment factors from 47 C.F.R. § 51.317(b)(2).

Ameritech's Broadband Service Offering. The Broadband Service is the end-to-end Project Pronto in three optional configurations: (1) data only (DSL) over copper loop (no voice), (2) data over loop with Ameritech voice customer, and (3) voice and DSL over Project Pronto for a customer served by the same CLEC. Ameritech maintains its Broadband Service is a voluntary offering not a UNE.[58] From Ameritech's description, it is clear that Ameritech uses PP architecture to provide both voice and DSL service.

Ameritech claimed that CLECs will not be impaired by not unbundling Project Pronto because it makes available the Broadband Service Offering. CLECs countered that this Broadband Service Offering alternative is impractical as an economic and operational matter for CLECs. CLECs claim that there are a number of reasons why the Broadband Service Offering is insufficient to overcome the impairment standard. First, and foremost, it is only a resale of an Ameritech product. Resale of an Ameritech service is no substitute for providing access to unbundling of network elements. Of particular concern is that Ameritech claims that the Broadband Service Offering is a voluntary stand-alone Service Agreement and will not be offered in the context of an Interconnection Agreement negotiated under §§ 251 and 252(c)(2). The CLEC's highlighted that the Broadband Offering merely gives CLECs the ability to resell SBC's ADSL service and the *UNE Remand Order* states the availability of retail or resold services carries little weight in

[58] No line splitting is required except where the CLEC provides the splitter and the entire loop is purchased.

an analysis of whether a CLEC is impaired.[59] Thus, they argue that the availability of the Broadband Service on a wholesale resale basis is not sufficient to avoid the fact that CLECs are impaired for purposes of 47 C.F.R. § 51.317.

CLECs also pointed out that for practical reasons, Ameritech's offering of Broadband Service would not be sufficient to avoid the impairment to CLECs. The terms of Ameritech's Broadband Service Agreement expressly give Ameritech the ability to unilaterally withdraw the offering for virtually any reason. Ameritech acknowledges that the Broadband Service is a voluntary offering and not subject to Commission authority for any of its terms and conditions. The CLEC's raised the concern that any CLEC that signs the Agreement would run the risk that Ameritech would modify substantially or eliminate the service. They conclude that no unaffiliated CLEC would rationally begin serving customers on an ILEC agreement of this nature. Ameritech's unilateral ability to withdraw or modify the Broadband Offering denies CLECs the certainty that the Broadband Offering can be relied on to provide service to their customers for any period of time into the future and would create uncertainty in the marketplace.

CLECs argued that with no choice other than to offer the Broadband Offering that Ameritech's affiliate, AADS, is offering,[60] CLECs will not be able to bring dynamic competitive choices to the marketplace and have the ability to overcome AADS' first-to-market competitive advantage of providing advanced services over the Project Pronto network. The lack of ability to design offerings different from the Broadband Service Offering results in lowering the quality and hindering of the basis for competition, investment, and innovation within the meaning of 47

[59] *UNE Remand Order* at pars. 67-69.

[60] Ameritech asserts that the ILEC sells the Broadband Offering while AADS sells the DSL service.

C.F.R. §§ 51.317(b)(2) and (3). CLECs would be tied to the bit rates and classes of service offered by Ameritech and cannot build innovative services. The CLECs do not have any other cost effective, timely means to reach millions of additional customers with DSL service that Ameritech can reach through the Project Pronto architecture.

CLECs also argue that Ameritech makes too much of the commitments in the *Project Pronto Waiver Order* to work collaboratively with CLECs to establish different quality of service classes including constant bit rates and virtual paths. They argue first, that AADS already has a first-to-market advantage. Second, the collaborative processes that will flesh out the details on these services cannot force Ameritech to do anything that it does not want to do. Unless the Project Pronto network is unbundled, a CLEC will have no recourse before this Commission or any other regulatory body to force Ameritech to comply with the request for different quality of service classes. Finally, CLECs argue that Ameritech has not committed to letting CLECs use other technically feasible line cards. CLECs claim this severely curtails their ability to develop products that can compete with Ameritech's offering.

In summary, the CLECs argued that failure to unbundle the Broadband Service Offering, impairs CLECs' ability to offer DSL services from a practical, economic and operational matter.

Copper Sub-loops With DSLAMs Collocated at RTs (Through an ECS). Ameritech conceded that it must allow collocation of DSLAMs at remote terminals by the CLECs since it is using DSLAM functionality at an RT. Ameritech claimed that CLECs are not impaired if it does not unbundle Project Pronto as a UNE because CLECs can collocate DSLAMS at RTs and provide advanced services using subloops. However, CLECs claimed realistic alternatives are not available considering the factors of timeliness, cost, ubiquity, and rapid introduction of

competition using the remote collocation of DSLAMs option. They argued that in most instances the collocation of a DSLAM at the RT is problematic, inefficient, and uneconomic for CLECs wishing to provide advanced services while Ameritech has provided itself DSLAM functionality at a lower cost per customer through the NGDLC.

Instead of allowing CLECs to place a line card in an NGDLC, Ameritech proposes to make available an ECS. Under the subloop unbundling standard, Ameritech is not required to open a splice in a cable to provide access to a subloop. It is only required to provide access at a terminal or point of interconnection.[61] However, Ameritech proposes it will open a splice and give CLECs access at an RT in this manner as the NGDLC is hardwired to the RT and no other means of access is available there. The CLECs argued that the FCC has found that collocation of DSLAMs at RTs through an ECS is problematic; "…likely to be costly, time consuming, and often unavailable."[62] Problems of accessing customers in that manner include finding collocation space in the RT or adjacent to the RT, completing an ECS charged at special construction rates and intervals to access a cross-connect to the CLEC's DSLAM, and finding and leasing dark fiber back to the CO while Ameritech has lower costs through the use of NGDLC to provide DSLAM functionalities. Besides the uncertainty and cost issues of not knowing time frames and rates for constructing adjacent collocations and ECSs, CLECs claimed Ameritech could not guarantee that there will be room for a particular CLEC or group of CLECs to collocate a DSLAM. Also, Ameritech does not guarantee that dark fiber is available at each RT for transport back to the CO, all of which Ameritech will have the functional equivalent.

[61] 47 C.F.R. § 51.319(a)(2).

[62] Deployment of Wireline Services Offering Advanced Telecommunications Capability, FCC 01-26 (Jan. 19, 2001) (Line Sharing Reconsideration Order).

Sprint pointed out that the Ameritech 2001 Construction Report, Ex. 136, states that Ameritech has placed 200 NGDLCs at Remote Terminals in Wisconsin. Using Sprint witness, Mr. Idoux's estimate of $110,000 per RT collocation, it would cost Sprint $22,000,000 to just collocate at each of the currently installed RTs. The CLECs argued that the FCC places extra emphasis on fixed costs for collocation in its impairment analysis.[63] Cost is a part of the evaluation of the practical and economic alternatives in the impairment standard.

In summary, the CLECs argued that the option provided by collocation of a DSLAM through an ECS does not alleviate the material impairment in offering DSL service if Project Pronto is not unbundled. In practical, economic, and operational matters the CLECs will be impaired by the excessive cost, delay in time to market, uncertainty in knowing if collocation space and dark fiber facilities are available, and the inability of CLECs to replicate Ameritech's ubiquitous network for advanced services by requiring collocating DSLAMs at or adjacent to the RT through ECSs instead of providing access to NGDLC-DSLAM functionality.

All Copper Loops. According to the CLECs, using homerun copper loops to provision DSL services to CLEC customers' results in significant and damaging limitations in quality, ubiquity, cost, and operational matters that can only be truly overcome by unbundling the Project Pronto architecture.

The CLECs pointed out that much of the deployment of NGDLC involves the replacement of existing copper. Exhibit 32 demonstrates the significant efficiencies that Ameritech expects to obtain by replacing copper with fiber in its network. CLECs claim that the existing copper loop network is insufficient to provide DSL services to the mass markets.

[63] *UNE Remand Order* at pars. 78-82.

Indeed, a reason for the Project Pronto investments is to extend the reach of DSL. Therefore, the CLECs argued that Ameritech will have an incentive to retire the copper plant because it is inefficient to maintain two loop networks simultaneously. Further, CLECs pointed out that the *Project Pronto Waiver Order* restrictions on retiring copper plant expire in 2003. Accordingly, there is no certainty that even the all copper loop alternative referred to by Ameritech will continue to be available. In addition, this alternative does not, for all practical purposes, enable CLECs to reach a large portion of the customers than can be served by Ameritech's Broadband Service Offering.

Project Pronto copper loops are engineered to be 12,000 feet or less. The CLECs argued that this gives Ameritech's affiliate using Project Pronto two advantages over CLECs who do not have access to Project Pronto loops on an unbundled basis. First the CLECs pointed out that the affiliate will not have to pay conditioning charges as do CLECs because copper loops less than 12,000 feet are not subject to conditioning charges. The Commission addresses this disparity in its decision (elsewhere in this order) to apply conditioning charges to all DSL-capable loops. Second, copper loops less than 12,000 feet with the remaining distance transmitted over fiber are capable of transmitting data at speeds much faster than using copper loops whose full length is greater than 12,000 feet. SBC's Project Pronto will be able to provide xDSL service to an additional 20 million customers throughout its 13-state region by extending its reach through the fiber portion of the architecture.

CLECs argued that an ADLU card in a remote terminal generates the ADSL signal far closer to the customer's residence than was earlier provided by a CO-based DSLAM. They maintain that interference issues (*i.e.*, cross-talk) arise for homerun copper loops sharing

distribution facilities with loops accommodating Project Pronto services. CLECs believe these interference issues make some homerun copper loops that were previously acceptable to carry CLEC xDSL signals, unusable for that function. Consequently, absent unbundled access to the Project Pronto network, CLECs claim they will incur higher costs, experience lower or less consistent levels of quality, have less ubiquitous access to similar facilities, and encounter more troublesome operational issues when left with only the option to provide DSL over legacy copper loops.

Summary of Evaluation of Alternatives. CLECs pointed out that Ameritech initiated its Project Pronto network initiative specifically to overcome limitations inherent in the ability of those same copper loops to support advanced services to the majority of its own customer base. The alternatives provided to the CLECs do not overcome these inherent limitations. In summary, in evaluating the alternatives Ameritech says are available to CLECs, none of the alternatives are practically, economically, and operationally similar to the Project Pronto architecture Ameritech argued it should not be required to unbundle.

Ameritech's Position on the Impairment Standard**.** Ameritech claimed that if the Commission applies the "impair" test to the end-to-end Project Pronto DSL architecture, this test has not been and cannot be met. According to Ameritech, CLECs improperly rely on a subjective impairment analysis based on speculation about future network design and future market conditions. Ameritech insisted that the impair test requires a quantitative, objective assessment of the market for the service in question as that market exists *today*, considering all potential sources of supply. Further, it argued that if the CLECs' abilities to provide DSL services were not impaired by lack of access to any preexisting network element(s) prior to

Ameritech's planned deployment of Project Pronto, then giving CLECs an *additional* means of providing competitive advanced services cannot somehow be used now to justify a finding of "impairment."

If Ameritech were still providing all its voice services over the pre-existing network, there may have been merit to this argument. However, the additional means provided by the Project Pronto architecture of providing competitive advanced services is also used to provide traditional voice services, giving Ameritech a degree of efficiency that the CLECs cannot hope to achieve on the preexisting network.

Ameritech further rejected the CLECs' analysis of the impair test because Ameritech believed lack of access to unbundled Project Pronto elements does not limit a carrier's ability to provide advanced services of its own design. Ameritech believes providing collocation of an RT through an ECS provides an equal ability to provide advanced services of new design. However, when the Commission factors cost, timeliness, and operational matters in the analysis, a CLEC is limited in comparison to Ameritech in offering advanced services.

Ameritech said that options available to advanced services providers using other technologies such as cable modems and wireless technology must also be considered in the analysis. It believes the very existence of these alternatives demonstrates that the CLECs' Project Pronto UNE/line card collocation proposal does not satisfy the "impair" standard of 47 U.S.C. § 251. These technologies do not, however, provide DSL service. While there are other forms of providing high speed data service, it would be unreasonable to allow Ameritech, as a practical, economic and operational matter, to have essentially a monopoly on the provision of DSL service as a result of the design it has chosen for Project Pronto.

Ameritech maintained its Broadband Service offering is a viable substitute for unbundling the Project Pronto DSL architecture even though it has reserved the right to change, modify or withdraw it. Ameritech argues it would make no economic sense to withdraw the Broadband Service offering because any withdrawal would apply equally to Ameritech's affiliate as to any other CLEC. As a result, the Project Pronto DSL facilities would sit unused and the multi-billion dollar investment would not generate sufficient revenue to recover its costs. Further, it states that there is no credible evidence to suggest that Ameritech could or would terminate the service offerings in the future for any other reason.

The Commission finds this to be a particularly hollow agreement. What Ameritech has reserved its right to do is to raise the price of the Broadband Offering and says that would also require that it raise the price of its Broadband Service to its affiliate that markets its DSL service. This provides no restraint on Ameritech's pricing at all. It allows Ameritech to increase its profit margin on the wholesale piece and decrease its margin on the retail piece retaining for SBC as a whole, the same level of profit. But squeezing the profit on the retail piece could drive CLECs who depend on that piece out of the market or lead to higher prices for end user consumers. The Broadband Service offering does not provide the CLECs a reasonable alternative as a practical, economic, and operational matter.

Ameritech represented that the CLECs are not impaired so long as incumbent LECs allow and actually provide the collocation of DSLAMs at RTs within six months of such requests. The unusual aspect of the Project Pronto architecture is that Ameritech's DSLAM functionality is split between the NGDLC in the field and in the CO while the alternative it

makes available to CLECs is a traditional DSLAM in the field. Further, the time periods are not comparable.

Finally, Ameritech argued that even assuming the CLECs' assumptions come true regarding withdrawal of the Broadband Service, copper retirement, and cross-talk problems, the Commission still could not lawfully require Ameritech to unbundle the Project Pronto DSL architecture now, because the Commission's unbundling determination must be "[b]ased on the actual state of competition."[64] The Commission's concern reflects the state of technological change in Ameritech's provision of service to its own voice customers. There are no other providers that could be similarly situated as Ameritech and be able to offer comparable services at comparable prices.

Ameritech argued the "impact on network operations" prong of the analysis requires a comparison of unbundling of existing network elements to other existing alternatives, and asks whether there are "material operational or technical differences in functionality that arise from interconnecting alternative elements."[65] Ameritech believes there would be significant negative network impacts from so called "unbundling" of Project Pronto DSL facilities, as compared to allowing CLECs to rely on alternatives like DSLAM collocation at RTs and its Broadband Service. Here the Commission does believe there is some merit to Ameritech's arguments. As the CLECs' requests could require changes to the architecture used by Ameritech for both its voice and DSL offerings, this is a factor in the Commission's decision to only require end-to-end unbundling and not unbundling of piece parts.

[64] *UNE Remand Order* at par. 23.

[65] UNE Remand Order at par. 99.

Subloop Unbundling Through Line Card Collocation. Ameritech pointed out that there is no physical access to subloops at an NGDLC line card slot, the protector block within an NGDLC RT, or a software cross-connect. Therefore, it concluded line cards cannot be used for interconnection or access to UNEs. Further, Ameritech made a number of arguments for why line card collocation is not feasible. The components of the Project Pronto DSL network are interdependent and cannot function if they are separated. Thus, they are not capable of being unbundled such that a CLEC could access any individual element at a physical point or "separate from . . . other network elements" and still have the element provide the same functionality. The Commission finds there is some merit to this concern.

Ameritech stated that Alcatel is the primary manufacturer of the NGDLCs that Ameritech plans to deploy. Line cards are "proprietary components" of the Alcatel NGDLC and Ameritech argued they cannot be substituted with other line cards made by other manufacturers. According to Ameritech, use of another manufacturer's line card, or other sub-component, voids the warranty of the equipment and other types of line cards will not work in the Alcatel equipment.

Ameritech further argues that many of the proposed UNEs cannot be unbundled because they are not part of the planned Project Pronto DSL network, but would require Ameritech to invest additional funds, build or install additional equipment, and ultimately, require redesign of the planned Project Pronto DSL architecture in order to provide those UNEs. Moreover, Ameritech argued that collocation of compatible cards would require extensive and expensive changes to its systems and processes.

According to Ameritech, allowing CLECs to own or control line cards would cause:

- Premature physical and bandwidth exhaust of the NGDLC system;

- The inefficient utilization of the NGDLC system;
- Operational problems;
- Additional capital investments sooner than would otherwise be required; and
- The additional capital investments also would result in delays and increased costs– from both a provisioning and maintenance/repair perspective.

Ameritech carried the argument further. The additional capital investments would make the offering less efficient and more expensive, and Ameritech would have no assurance that it would recover the cost of the additional investments, so these increased deployment costs likely will result in TELRIC prices for the Project Pronto that are higher than would otherwise be charged for the Broadband Service if it were deployed as intended. Additionally, because the CLECs would be under no obligation to purchase the resulting offering (which again would be considerably more expensive) after the modifications were made, Ameritech would have no assurance it would recover its costs.

The Commission agrees with Ameritech regarding collocating a line card in the NGDLC that there do appear to be technical feasibility concerns that could have a significant impact on Ameritech operations at this time. The Commission analyzes the CLECs' request based on the standards for subloop unbundling. A subloop is only required to be unbundled at an accessible terminal which the FCC describes as follows:

> An accessible terminal is any point on the loop where technicians can access the wire or fiber within the cable without removing a splice case to reach the wire or fiber within. Such points may include, but are not limited to, the pole or pedestal, the network interface device, the minimum point of entry, the single point of interconnection, the main distribution frame, the remote terminal, and the feeder/distribution interface.[66]

[66] 47 C.F.R. § 51.319(a)(2).

At least at this point in time, the incoming copper facilities from the end-user customer's premises are terminated on the backplane of the NGDLC. The incoming electronic signal spectrum from these copper facilities is then routed over a hard-wired connection to a slot within the NGDLC Channel Bank Assembly, which holds a line card designed for that particular type of NGDLC. Based on this description, there does not appear to be an accessible terminal at which to access a subloop. Accordingly, it is reasonable for the Commission to conclude that while it will require the unbundling of the end-to-end Broadband data loop, it will not at this time require unbundling that data loop into subloop pieces as the line card collocation proposal effectively requests.

The FCC is investigating the policies and issues of technical feasibility regarding line card collocation and unbundling of NGDLC structures. As a result of its investigation the FCC may find a legally defensible and technologically sound means of achieving the CLECs' desired unbundling. The Commission has not found such a means of unbundling in this record.

Additional Considerations. 47 C.F.R. § 317(b)(2) sets forth a list of additional factors that the Commission may consider when making an unbundling determination. These factors include whether unbundling would: (1) promote rapid introduction of competition in all markets; (2) promote facilities-based competition, investment, and innovation; (3) reduce regulation; and (4) promote certainty in the market.

The Commission considers these additional factors. In light of a concern for rapid introduction of competition, and promotion of investment, the Commission chose not to require subloop unbundling of the Broadband end-to-end UNE. However, the Commission considers that it will not promote facilities-based competition, investment, and innovation unless it requires

unbundling of the Broadband end-to-end UNE. If practical, economic, and operational alternatives to compete are not available, companies will not invest. The efficiencies Ameritech obtains through the Project Pronto architecture including leveraging the scale of operations through its existing voice customers would inhibit other competitors from making alternative investments. The Commission, in choosing to unbundle the Broadband end-to-end UNE has chosen the path of least necessary regulation to promote competition. Finally choosing to unbundle the Broadband end-to-end UNE is operationally practical and doing so will promote certainty in the industry of alternative means of providing DSL service.

Packet Switching. Ameritech asserted the Project Pronto architecture applies packet switching and that the federal legal standards for unbundling packet switching, in particular, have not been met and, therefore, unbundling of Project Pronto cannot be ordered. Ameritech emphasized that the packet switching functionality found in the Project Pronto architecture is integral to the system and, therefore, the system cannot be unbundled unless the standards found in 47 C.F.R. § 51.319(c)(4) of the FCC are met. The Commission does not agree with this analysis and will explain its position in the discussion of the criteria below.

47 C.F.R. § 51.319 defines packet switching as the routing or forwarding of packets, frames, cells, or other data units, based on address or other routing information contained in these units and the multiple function performed by DSLAMS. Four conditions must be met before packet switching can be unbundled. These conditions are:

(1) The ILEC has deployed digital loop carrier systems or has deployed any other system in which fiber optic facilities replace copper facilities in the distributions system;

(2) There are no spare copper loops capable of supporting the DSL service the requesting carrier seeks to offer;

(3) The ILEC has not permitted a requesting carrier to deploy a DSLAM at a remote terminal, pedestal or environmentally controlled vault or other interconnection point, nor has the requesting carrier obtained a virtual collocation arrangement at these subloop interconnection points; and

(4) The ILEC has deployed packet switching for its own use.

CLEC Packet Switching Analysis. The CLECs pointed out that Ameritech is using a relatively limited exception that applies only to unbundling packet switching to deny CLECs access to the entire Project Pronto network. The CLECs claimed that, without access to the Project Pronto NGDLC architecture, they will be impaired in providing DSL service so as to be uncompetitive in the advanced services market, and accordingly, Project Pronto should be required to be unbundled regardless of the packet switching test.

However, according to the CLECs, they also believe the four conditions from the FCC's packet switching rule are satisfied based on the following analysis:

(1) Ameritech has deployed digital loop carrier systems and much of its deployment replaces existing copper.

(2) The existing copper loop network is insufficient to provide DSL services to the mass markets. Indeed, the reason for Project Pronto is to extend the reach of DSL.

(3) Ameritech does not allow CLECs to collocate line cards in the NGDLC in the same manner that Ameritech does. Moreover, collocating a DSLAM at the RT is costly, time consuming and often unavailable.

(4) Ameritech undoubtedly is deploying packet switching for itself. Exhibit 32 is full of examples of the efficiencies, expense savings, capital savings, and revenue opportunities presented to the SBC ILECs, which would include Ameritech. Ameritech uses the Project Pronto architecture to provide its voice service and gains efficiencies from that which no other provider could achieve. Ameritech admits the NGDLC provides DSL capability by performing, among other things, a function similar to that of a DSLAM (including the packetizing of data signals) within the RT site.

Ameritech Packet Switching Analysis. Ameritech reasoned that:

(1) The first condition does not exist because Project Pronto is an overlay network that would not replace any existing copper distribution facilities.

(2) The second condition does not exist because there is no evidence of a single concrete instance where a CLEC's ability to provide xDSL service was inhibited due to the lack of a spare copper facility.

(3) The third condition does not exist because Ameritech allows DSLAM collocation at all of its existing RTs and has committed to allow such collocation in future RTs.

(4) The fourth condition does not exist because Ameritech will not use the packet switching equipment for its own use. (Ameritech asserted it provides the Broadband Offering and that only its affiliate sells the DSL service, so the packet switching is not for Ameritech's own use.)

Commission Packet Switching Analysis. The Commission does not agree with Ameritech's packet switching analysis for the following reasons:

(1) Project Pronto is not an overlay network. It is a replacement network to which Ameritech is transitioning all of its voice service over time.

(2) As Ameritech is transitioning away from using certain copper facilities, it is reasonable to conclude that there may be cases where CLECs will lack copper spare.

(3) Ameritech does not allow CLECs the same kind of access to DSLAM functionality that it uses for itself. Offering CLECs conventional DSLAM collocation at an RT through an ECS is less timely and more expensive than Ameritech provides to itself and its affiliates.

(4) The issue of who uses packet switching and where has been blurred by spreading the DSLAM functionality between the RT and the CO. However, in some manner Ameritech is able to offer its Broadband Service Offering which uses packet switching. So it must in some way be using packet switching for its own use.

However, the Commission does not believe that the packet switching analysis is necessary to require unbundling of the Broadband Service as an end-to-end high speed data loop. A data loop falls equally under the unbundling obligations as a voice loop. CLECs are impaired in the provision of DSL service without access to the data loop. Accordingly, the data loop must be unbundled.

Commission's Determination. This Commission is charged under Wis. Stat. ch. 196 with the goal of promoting a competitive telecommunications marketplace. To that end, Wis. Stat. § 196.219(3)(f) authorizes the Commission to order the unbundling of network elements by providing, in part: "The public service commission may require additional unbundling of intrastate telecommunications services based on a determination,…that additional unbundling is

required in the public interest and is consistent with the factors under s. 196.03(6)." Included in the factors found in Wis. Stat. § 196.03(6) are the (a) promotion and preservation of competition; (b) promotion of consumer choice; (c) impact on the quality of life for the public; and (d) promotion of efficiency and productivity. Accordingly, these provisions authorize the Commission to order the unbundling of Project Pronto, upon finding that this would be consistent with the public interest and promote competition.

Wisconsin law is consistent with the intent of Congress and the FCC, that states have the ability to impose additional unbundling requirements. Specific provision is made in the Act for states to address unbundling issues. 47 U.S.C. § 261 provides that a state may impose additional requirements as necessary to further competition in telecommunications as long as those requirements are not inconsistent with the Act or related regulations. The Commission has relied upon the impair test in its determination that additional unbundling is necessary and not inconsistent with the Act or related regulations.

The Commission finds that Project Pronto must be made available to CLECs as an end-to-end UNE. The Commission makes this finding on the grounds that unbundling Project Pronto serves the public interest and promotes competition by facilitating the provision of advanced services by CLECs, who would otherwise be impaired without access to these facilities.

Project Pronto investments would not have been made without the demand for DSL for high speed Internet connection. Its purpose is to realize the efficiencies of combining voice and data services over the same copper loops, and dividing them close to the customers' premises for

delivery to the CO via fiber optic lines. The loop plant upgrade adds fiber from the RT to the CO for both voice and data traffic, making this investment a loop replacement architecture.

Ameritech initiated its Project Pronto network specifically to overcome limitations inherent in the ability of the copper loops to support advanced services to much of its customer base. If CLECs are relegated to using only legacy copper facilities to serve their customers, they will be "impaired" as that term is defined by the FCC. Further, the analysis of impairment under 47 C.F.R. § 51.317 clearly shows that even with the other options Ameritech identifies, CLECs are impaired in their offering of advanced services without appropriate access to Project Pronto.

Collocation by CLECs at RTs is costly, time consuming, and often unavailable. Difficulties encountered when collocating at an RT include space considerations, availability of dark fiber, and completing an ECS. All of these processes involve individual case basis-pricing and/or time frames for completion that add uncertainty and vast costs for the CLECs intending to pursue broadband deployment strategies.

In making its determination, the Commission is looking at the impact on the CLECs' options to provide the advanced services they seek to offer. While Ameritech argued with regard to each of the options that the CLECs' opportunity to offer advanced services is not materially diminished, each argument relies upon the Broadband Service offering as the safety net in case the CLECs encounter the problems they currently face. Accordingly, the Commission requires the Broadband Service to be unbundled as an end-to-end UNE to assure its availability.

The flaws with the other alternatives make the investments necessary to pursue those entry strategies too costly and risky to pursue uniform DSL offerings different from Ameritech's across Ameritech's territory. CLECs seek to have interconnection with Project Pronto loops

equal to Ameritech's affiliate AADS, so they too may pursue a strategy similar to AADS' strategy of offering territory-wide uniform DSL services—but they do not want to, and are impaired if required to offer only resold AADS DSL services.

The Commission finds that satisfaction of the four-point analysis of 47 C.F.R. § 51.319, relating to the unbundling of packet switching, is not dispositive of whether Project Pronto should be unbundled. Each point in the analysis has qualified positive and negative responses in the face of absolute criteria. The technological efficiencies gained by having the voice and data services share the same equipment does not "fit" neatly into the applicable criteria. For instance, the DSLAM collocation at RTs through the ECS was shown to be problematic enough to prove impairment, however, it is subjective whether that impairment amounts to a denial of DSLAM collocation under the FCC's third criteria in § 51.319.

The Commission cannot, therefore, reach the conclusion that line card collocation is required at this time. The problems of time delay, technical and logistical factors, and cost associated with Project Pronto unbundling through line card collocation prevents the Commission from finding that any federal standard is satisfied, and ordering such at this time.

Instead, the Commission is unbundling Project Pronto as it is packaged and sold as a single product. The Commission is not individually unbundling Project Pronto's many elements, which include packet switching functionalities. Because the piece parts are not being unbundled, the Commission is not required to apply 47 C.F.R. § 51.319 to Project Pronto as a whole. Rather, satisfaction of the impair standard found in 47 U.S.C. § 251(d)(2) and 47 C.F.R. § 51.317 requires this product be unbundled.

The FCC is currently conducting rulemakings on the unbundling and collocation issues raised by the CLECs' Project Pronto UNE/line card collocation proposal. The Commission believes that, if possible, these issues should be considered and resolved on a national basis.

Ameritech's Broadband Service offering does not remedy the impairment to CLECs seeking to offer DSL services different from those offered by AADS unless the various versions are made into end-to-end UNE options. Making Project Pronto a UNE will assure the continued offering and TELRIC pricing of access to the Project Pronto loop network. It will also allow Commission oversight of Ameritech's efforts to meet its obligations under the Project Pronto Order to pursue line card options for CLECs. Further, unbundling of Project Pronto may be necessary if Ameritech does not meet its obligations under the Project Pronto Order to pursue line card options for CLECs.

Finally, unbundling of Project Pronto as an end-to-end UNE is consistent with the public interest in the greater availability of advanced service offerings from a variety of telecommunications carriers, as well as promoting competition in the advanced services marketplace.

Ameritech did the costing of the Broadband Service using the same TELRIC studies as for the other loop and subloop studies. Therefore, adjustments made to that study in this order should apply equally to the pricing of the end-to-end Project Pronto UNE.

High Frequency Portion of the Loop

A basic loop can be split into two parts, with voice service provided over the low frequency portion of the loop and data service using DSL over the high frequency portion of the

loop (HFPL). The FCC has mandated that ILECs offer the HFPL as a separate UNE.[67] With two services using the same facility, that facility becomes a shared cost, with no cost-based methods for assigning costs between the services. It would be equally reasonable for 100 percent of the cost to be recovered from the voice customer, 100 percent from the DSL customer, to split the cost 50/50, or in any other ratio. In this situation, the Commission also looks at non-cost policy considerations, in particular, the factors listed in Wis. Stat. § 196.03(6), including the impact of the UNE rate on consumer choice, competition, economic efficiency, infrastructure investment, economic development and universal service.

Ameritech advocated that the HFPL be offered at a price that recovers 50 percent of the cost of a loop. It reasoned that when two services jointly cause a cost to occur, both services should split the cost evenly. They offered testimony that such a split would replicate the type of price that would result in a competitive market because competitive companies cannot afford to give away valuable assets, and companies do not expect to receive something of value for nothing. Because a 50/50 split would not favor one competitor over another, it would provide the best mix of incentives to promote consumer choice, competition, economic efficiency, and infrastructure investment. If data CLECs obtained the use of the loop for free, this would discourage facilities-based competitors from investing in their own networks and discriminate against voice CLECs who may want to provide the HFPL to data CLECs.

The CLECs advocated a zero price for the HFPL, arguing that because there is no incremental cost to Ameritech to provide the HFPL, any price above zero would not be cost based. They also pointed out that Ameritech already recovers the cost of its loops from its voice

[67] Deployment of Wireline Services with Advanced Telecommunications Capability, FCC 99-355, (Dec. 9, 1999) (Line Sharing Order) par. 25.

customers. Because the HFPL can only be offered in situations where Ameritech retains the voice customer but not the DSL customer, it will have already recovered its costs. Any price above zero for the HFPL will result in Ameritech over recovering its costs for the loop. They also suggest that charging a price higher than zero will force data CLECs to charge higher prices that dampen the overall demand for advanced services and their ability to compete with other facilities-based providers.

Ameritech responded that the way retail rates are set do not factor into the pricing of UNEs, which must be based upon costs, so double recovery, even if it could be established, would be irrelevant to UNE pricing. Ameritech further responded that retail rates for residential voice service do not come close to recovering the costs to provide voice service, so even if they recovered 50 percent of the cost of a loop in the UNE rate for HFPL, they will not be double recovering the cost of the loop.

The Commission is disadvantaged when it must make decisions where the positions of the parties are far apart and there is little rationale for choosing one position over the other. After considering Ameritech's arguments about the need to consider how such an asset would be priced in a competitive market, the Commission agrees that the HFPL has value, and that normally, the competitive market does not give valuable property away. However, staff provided testimony that it is not uncommon in competitive markets to provide valuable items at no cost, provided this will allow a company to increase its revenues from the sale of complementary goods or services.

One way to consider the HFPL is to assume that by offering the HFPL to data CLECs at no cost, Ameritech is more likely to retain the voice customer. This allows Ameritech to keep

the retail revenues, which, when coupled with subscriber line charges and access revenues from toll providers, should be higher than the wholesale revenues for unbundled loops. In addition, by retaining the retail voice customer, Ameritech has the opportunity to sell vertical services to that customer. Charging higher rates for the HFPL provides an incentive for the data CLEC to purchase the entire UNE and either provide voice services itself or sell the low frequency portion to another CLEC.

Even if, as Ameritech suggests, it does not recover all of its costs to provide voice service to its retail customers from the monthly charge for telephone service, there is no question that it is earning a profit from the total revenues it recovers from its local service customers. Charging a rate equal to 50 percent of the loop UNE rate for the HFPL would allow Ameritech to further increase its profits. There were alternatives from decisions in other jurisdictions where it was seen that one way to keep Ameritech from earning this windfall without distorting the market for broadband services by giving away the HFPL would be to share the revenues with Ameritech's retail customers in the form of credits, price reductions, or rebates. Even if the Commission had the authority to so change the prices Ameritech charges retail customers for the loop, the transaction costs involved would be prohibitive.

After weighing the evidence about the impact giving away the HFPL will have on competition from other facilities-based broadband providers and their incentives to invest in Wisconsin, the windfall in profits from a 50 percent rate, and the incentives for data CLECs to compete with Ameritech in Wisconsin, the Commission finds that it is reasonable for Ameritech to provide the HFPL UNE at no cost.

Ameritech is entitled to recover the costs of providing UNEs, including the costs to split a standard loop into high-frequency and low-frequency portions. Installing and removing cross-connect jumpers to connect line splitters are the primary costs involved. The amount of costs actually incurred depends upon where the line splitters are placed. The placement of line splitters is discussed in a separate section of this order, as are the other elements of Ameritech's cost study that influence the cost to install and remove cross-connect jumpers. (See the Nonrecurring Costs section of this order.) The Commission finds that it is reasonable to apply all of the adjustments it has approved for Ameritech's nonrecurring cost study to the calculation of the cost to install and remove cross-connect jumpers, including incorporating a ratio of line splitters on the MDF that corresponds to the ratio of COSMIC frames used in Ameritech's COs.

Line Splitters

The line splitter is a passive device that divides the data and voice signals concurrently moving across the loop. Line sharing is where POTS service and DSL service are offered by different providers over the same local loop.

The issues addressed in this proceeding directly relating to the line splitter include: (1) whether Ameritech should be required to provide line splitters on other than a line-at-a-time basis; (2) whether Ameritech should be required to provide line splitters to CLECs utilizing the UNE-P or otherwise desiring to engage in line-splitting; (3) where line splitters should be located in Ameritech's COs; (4) the appropriate recurring charges for line splitters provided and placed by Ameritech; and (5) access to and rates for OSS to support Ameritech provision of line splitters. The parties addressed in their briefs the question of whether Ameritech should be required to provide line splitters. That issue was designated to be decided in the

AT&T/Ameritech arbitration docket and only the costing issues required resolution in this proceeding. Issues relating to line sharing itself or nonrecurring charges are addressed in other sections of this order.

Line-At-A-Time versus Shelf-At-A-Time. Ameritech argued that the FCC does not require ILECs to own the line splitter, but instead requires CLECs, even when using UNE-P, to provide their own splitter or to partner with a data CLEC that provides the line splitter. Therefore, Ameritech believes it is not required to provide the line splitter when it is no longer serving the voice customer. Ameritech argued that splitters are not components of its existing network and would be installed only to enable a CLEC to line share with Ameritech.

Ameritech pointed out that CLECs can engage in line splitting without using an ILEC-owned splitter since splitters are available from a variety of vendors.

Ameritech explained that the CLECs and SBC engaged in a collaborative process called the "Line Sharing Trial," in which consensus was reached to utilize two network architectures for line sharing. The first is where the CLEC purchases, installs, owns, and maintains a splitter in its collocation arrangements. The second is where Ameritech purchases, installs, owns, inventories, and maintains the splitter. In the end, Ameritech stated, the CLECs specifically requested that the ILECs provide ILEC-owned splitters on a line-at-a-time basis, and, even believing it was not obligated to do so, Ameritech voluntarily agreed to do so.

In addition to the fact that CLECs specifically requested the line-at-a-time basis, Ameritech has chosen not to provide splitters on a shelf-at-a-time basis because it believes it would lead to the following three operational problems: (1) restrictions of Ameritech 's

inventory system; (2) frame exhaust; and (3) inefficient use of capital for both Ameritech and the CLECs.

With regard to the general question of Ameritech making line splitters available, the CLECs argued that there is no technical reason for denying CLECs the right to use Ameritech's line splitters, and that all carriers would benefit from CLECs having such access. They believe this would reduce CLECs' capital requirements for local entry, allay Ameritech's concerns regarding unused and stranded equipment, allow Ameritech to earn additional revenues, avoid the unnecessary duplication of facilities that would otherwise occur, and promote local competition. The CLECs further argued that, in some instances, it is more cost effective for CLECs to purchase line splitters a shelf at a time. The CLECs request that Ameritech not be allowed to refuse to provide line splitters on the most economically efficient basis as requested to meet a particular CLEC's needs

The question of whether Ameritech must provide line splitters in being addressed in the AT&T/Ameritech arbitration docket. This UNE docket was not intended to be a place to reargue that question. The question here is, if Ameritech is required to provide them, should line splitters be provided on a line-at-a-time basis, a shelf-at-a-time basis, or some other basis? Based on a consensus, Ameritech is currently providing splitters on a line-at-a-time basis and there is little evidence of need for shelf-at-a-time, or other alternatives. We find that because of this, and due to operational problems, it is not reasonable to require Ameritech to provide splitters on other than a line-at-a-time basis, provided that line splitters are required to be provided in the AT&T/Ameritech Arbitration Award in Docket 05-MA-120.

Line Splitters for UNE-P Arrangements. According to Ameritech, the CLECs' line splitting proposal over UNE-P would require it to separate currently combined UNEs (UNE DSL-capable loop and the UNE switch port) and recombine those UNEs with a new UNE splitter. Ameritech believes this would give rise to numerous operational problems.

The CLECs argue that the Commission should require Ameritech to provide line splitting over UNE-P because the AT&T/Ameritech Arbitration Panel's Award requires Ameritech to provide line splitting over UNE-P, and because, contrary to Ameritech's contention, applicable federal authorities require it to provide line splitting over UNE-P.

As stated previously, this docket is not intended to be a place to reargue the issues in the AT&T/Ameritech arbitration. The question of whether Ameritech must provide line splitting over UNE-P will be resolved in that docket. The related questions that remain in this docket are discussed below.

Line Splitter Placement. Ameritech argued that the splitter should be placed in the collocation common area rather than on the main distribution frame (MDF). The CLECs argued that frame-mounted splitters are more efficient. The Commission decided it is reasonable to require that Ameritech's cost study assume MDF placement only in COs with COSMIC frames.[68]

Ameritech argued that, as a matter of sound engineering principles, splitters should be placed in the common collocation area, not on the MDF. Ameritech claimed that frame mounted splitters are not more efficient than bay mounted splitters because the MDF is designed for wiring and is not designed for mounting splitters. Frame-mounted splitters cannot be efficiently

[68] The nature of COSMIC frames and the efficiency gains are discussed elsewhere in this order with regard to nonrecurring charges.

repaired and maintained. It further claimed placing splitters on the MDF would lead to faster exhaust of the frame, would serve only the narrow economic objectives of CLECs using the HFPL, and would ignore the needs of all other customers and carriers served out of the CO, including Ameritech. It also argued that placing the splitter in the common areas is more beneficial to CLECs because it would provide CLECs with test access to the HFPL at the splitter 24 hours a day, 7 days a week.

The CLECs argued that the Commission should order Ameritech to place line splitters in its COs on the basis of engineering efficiency and that MDF-mounted splitters promote efficiencies by reducing the need for running jumper cables and taking up less floor space than rack-mounted splitters, and that they are the least-cost technology. The CLECs disagreed with Ameritech's claims that placing the splitters on the MDF would lead to frame exhaust, and pointed to the AT&T/Ameritech Arbitration Panel's statement that the key driver of splitter placement is the splitter's ultimate use. The CLECs also noted that both the CLEC and Ameritech testimony in this docket demonstrated that Ameritech's assertions that MDF-mounted splitters cannot be efficiently repaired and maintained are unfounded. Specifically, both Mark Welch of Ameritech and CLEC witness, Sidney Morrison, testified that US West has implemented precisely the MDF-based splitters advocated by the CLECs. According to the CLECs, this should dispel doubts that such splitters are difficult to maintain.

The Commission will not require Ameritech to place splitters on the MDF. As discussed earlier, *GTE v. FCC* holds that the ILEC is permitted to determine the particular areas within its COs where equipment should be located. Further, such placement is not in all ways more efficient than locating the splitter in the collocation area. Therefore, we reject the CLECs'

proposal that costs and prices be based on the assumption that all splitters are located on the MDF.

The Commission finds, however, that MDF-mounted splitters may, in certain circumstances, promote efficiencies and be the least-cost technology by reducing floor space and the need to run jumper cables. However, the Commission finds compelling Ameritech's assertions that MDF-mounted splitters are not in the best interest of all customers and carriers in most instances.

In balancing these two conclusions, the Commission believes that where COSMIC frames are deployed in the CO, there are significant economic and engineering efficiencies to be gained by mounting line splitters on MDF. According to Ameritech, COSMIC frames are deployed in about 10 to 15 percent of Ameritech's COs. Ameritech's cost study should use the lower-cost MDF placement in COs where COSMIC frames are deployed and incorporate those lower costs into its overall line splitter placement cost study.

Line Splitter Cost. Ameritech's proposed monthly recurring splitter charge only applies when a CLEC uses an Ameritech-owned splitter. Ameritech argues that it is reasonable and complies with the FCC's TELRIC rules.

In opposing Ameritech's proposed recurring splitter charge, the CLECs assert that: (1) the fill factor used by Ameritech in its splitter cost study is too low; and (2) the installation factor is inflated.

Ameritech stated that the CLECs provided no documentation to show that any ILEC has ever come close to achieving the splitter fill factor rate that the CLECs recommend. Ameritech

argues that the splitter fill factor used in its cost study is based on actual fill data for Ameritech's splitters and is fully supported.

Ameritech applies an installation factor to line splitters. The CLECs claim that the Account 357 installation factor is inappropriately applied to the line splitter. Ameritech argued that the splitter is classified as a piece of Account 357 equipment for plant accounting purposes. Moreover, this factor was specifically developed for this category of equipment and, therefore, is appropriate to use for the splitter.

The CLECs urge that the Commission require Ameritech to price line splitters at rates as adjusted by CLEC coalition witness Dr. Ankum. Dr. Ankum stated that Ameritech has overstated the costs of providing line splitters to CLECs who engage in line sharing by: (1) using inflated time estimates for running jumper cables, which he points to as the single most important input into the NRC for line sharing; (2) including the unnecessary Intermediate Distribution Frame (IDF) in its cost study, since TELRIC should contemplate a movement away from the MDF and IDF and onto IDLC equipment; (3) assuming the use of rack-mounted splitters, rather than smaller, MDF-mounted splitters; and (4) applying fill factors that are too low.

The Commission addressed the CLECs' first three adjustments when it addressed the issues related to jumper cables and MDF-mounted splitters above. Elsewhere in this order, the Commission rejects Ameritech's use of actual fills as the basis for fill factors for other loop cost inputs. The fill factor Ameritech proposes for line splitters suffers from the same deficiency--use of actual achieved fills rather than fill factors-based on efficient use of facilities, consistent with a forward-looking, least-cost methodology. The CLECs offer a different fill factor in

confidential testimony; however, the Commission is unable to adopt it because there is insufficient support for development of that figure in the record. Given the function of line splitters in the loop, the Commission believes the fill factor for loop electronics is the most reasonable proxy to use as a fill factor for line splitters.

The installation factor proposed by Ameritech is adequately defended in the record based on its application of the installation factor for the category of equipment in which line splitters are properly classified. The CLEC arguments relate to inappropriate assumptions on line-splitter placement and their alternative proposal is not adequately supported in the record.

OSS Systems to Support Line Splitter Availability. Where CLECs wish to line split, Ameritech argued that the FCC affirmatively requires CLECs to self-supply and collocate their own splitters, and establish the necessary CLEC-to-CLEC service arrangements themselves. Ameritech claimed that it already provides the OSS processes that accommodate this FCC-defined line splitting, which involves only the situation where a CLEC purchases an entire unbundled loop and provides its own splitter (or partners with a data CLEC that provides the splitter).

Ameritech claimed that the CLECs' "line splitting" proposal is much different than FCC-defined line splitting. CLEC-defined "line splitting" includes a requirement that Ameritech purchase and install an ILEC-owned splitter and combine the splitter with the unbundled loop and unbundled switch.

Ameritech argued that its mechanized systems can only inventory the primary lessee of the UNE-P, and cannot track a separate user/sub lessee of the HFPL. Accordingly, Ameritech

would have to make substantial upgrades and enhancements to its databases and systems in order to accommodate CLEC-defined line splitting.

The CLECs argued that the AT&T/Ameritech Arbitration Award plainly required Ameritech to provide OSS systems that could support the provisioning of line splitters.

As stated previously, this docket is not intended to be a place to reargue the issues in the AT&T/Ameritech arbitration. Further, this record does not contain sufficient information for decisions concerning costs for OSS access to line splitters. Because the AT&T/Ameritech Arbitration Award requires Ameritech to make line splitters available to CLECs, and requires OSS revisions for ordering it, Ameritech is required to submit additional cost information in this area.

Line Sharing Over Fiber

The parties' arguments discussed in the Project Pronto section of this order with regard to the CLEC proposal to unbundle Project Pronto are applicable to the issue of line sharing over fiber. Those arguments will not be repeated here. Suffice it to say, Ameritech argued that no specific line sharing over fiber obligations should be imposed on them, whereas the CLECs asserted that Ameritech should be required to allow line sharing over fiber facilities. The Commission concludes line sharing over fiber facilities should be provided in circumstances where it is technically feasible and CLECs have made the investment to collocate DSLAMs at or near the RT through an ECS.

The Commission turns to the following statements of the FCC:

> We clarify that the requirement to provide line sharing applies to the entire loop, even where the incumbent has deployed fiber in the loop (e.g., where the loop is served by a remote terminal). Our use of the word "copper" in section 51.319(h)(1) was not intended to limit an incumbent LEC's obligation to provide competitive LECs with access to the fiber portion of the DLC loop for the provision of line-shared xDSL

> services. …When we concluded in the *Line Sharing Order* that incumbents must provide unbundled access to the high frequency portion of the loop at the remote terminal as well as the CO, we did not intend to limit competitive LECs' access to fiber feeder subloops for line sharing.[69]

This FCC order is in stark contrast to Ameritech's statements that CLECs, who chose to collocate DSLAMs at the RTs, do not have assurance of access to even Ameritech's dark fiber transport to the CO, much less a fiber feeder subloop. Ameritech stated that where no copper feeder subloop facilities are available, the CLECs should find a third-party provider of fiber or build its own fiber facility to the RT.

In this order, the Commission is requiring the unbundling of Project Pronto as an end-to-end UNE offering as an alternative to the costly approach of collocating DSLAMs at or near an RT through an ECS. But where a CLEC has made the investment for an ECS to collocate its DSLAMs at or near the RT, clearly the FCC did not intend the CLECs to be limited to copper feeder subloops for transmission back to the CO. The CLECs raised the possibility of exhausting available copper feeder subloops for transmission between the CO and the RT. While Ameritech gave argument and reasons why that event will not occur, given the considerable investment CLECs would have to make for such DSLAM collocation, they must be assured of transmission between the CO and RT. Ameritech's position is unreasonable. CLECs facing an exhaust of Ameritech available copper facilities would have to make the investment to build their own transmission facilities. The Commission might be inclined to require access to Ameritech's fiber feeder subloops in that event. However, it is not clear that such exhaustion of available copper facilities should be a prerequisite to providing CLECs access to fiber feeder subloops. Therefore, it is reasonable to require Ameritech to, where technically feasible, provide for CLEC

[69] Line Sharing Reconsideration Order at par. 10.

access to fiber feeder subloop transmission from the CO to the RT where the CLEC has collocated its DSLAMs through an ECS.

Integrated Digital Loop Carrier (IDLC)/Universal Digital Loop Carrier (UDLC)

Ameritech proposed using 100 percent UDLC and no IDLC to develop the cost of an unbundled loop. This is based on its position that IDLC cannot be made available to CLECs, and that only UDLC is available to CLECs. The CLECs proposed using 60 percent IDLC and 40 percent UDLC, asserting that a blend of these technologies is reasonable in a forward-looking network. The Commission determines that, based on Ameritech's construction forecasts, 50 percent IDLC and 50 percent UDLC are reasonable to use when developing unbundled loop rates. These rates will be applicable to both loops already in combination and stand-alone unbundled loops.

Ameritech asserted it cannot unbundle loops that terminate on any type of IDLC system. Ameritech asserted that the least cost, most efficient way to provide such loops is to convert IDLC loops to UDLC or copper feeder loops providing an appearance on the main distribution frame. Ameritech asserted that, by definition, an unbundled loop is a physically recognizable, dedicated path with a one-to-one correspondence at all times. The CLECs argued that it is not a reasonable modeling assumption to convert a signal from digital to analog on multiple occasions, as is required by converting IDLC to UDLC.

The Commission does not accept Ameritech's assertion that an unbundled loop is, by definition, a dedicated path with a one-to -one correspondence at all times. When looking at the discussion in an FCC order regarding line sharing, the following guidance is provided regarding the definition of unbundled loops:

> The local loop is defined as a transmission facility between a distribution frame (or its equivalent) in an incumbent LECs CO and the loop demarcation point at the end user customer premises, including inside wire owned by the incumbent LEC. By using the word "transmission facility" rather than "copper" or "fiber," we specifically intended to ensure that this definition is technology neutral. …[70]

Later, in the Commission's discussion of Nonrecurring Costs, the Commission agrees with Ameritech that there are currently technical feasibility difficulties in separating integrated traffic prior to connecting to a switch. However, the Commission determines that the definition of an unbundled loop does not require the use of a dedicated physical path, and an unbundled loop could be provisioned over an integrated path, where technically feasible.

The difference in the cost of an unbundled loop using IDLC instead of UDLC can be modeled by removing all costs associated with the CO terminal line cards as there would be no need for the digital to analog conversion at that point. Staff had Ameritech submit as an exhibit a cost study which Ameritech had provided to the FCC supporting payphone costs that used IDLC technology.[71] The CLECs questioned why Ameritech submitted that costing method in another proceeding with the FCC, while asserting that the 100 percent UDLC assumption is necessary to model its costs in this proceeding.[72]

The CLECs pointed out that when an unbundled loop is purchased in combination, such as the UNE-Platform, Ameritech actually provisions the loop using IDLC if the retail customer's service was provisioned using IDLC. If UDLC technology is assumed in the model, the CLECs purchasing the UNE-P will pay Ameritech rates (UDLC) in excess of the unbundled loop costs

[70]Line Sharing Reconsideration Order at par. 10.

[71] Exhibit 125.

[72] While the cost difference between IDLC and UDLC for an unbundled loop is only whether a line card is needed or not, there are other cost effects in Nonrecurring Costs and Special Construction Charges that are addressed in those respective sections. These involve whether there need to perform manual CO cross connects in provisioning unbundled loops and whether special construction charges are appropriate to convert from IDLC to UDLC.

they generate (IDLC). The cost developed in this case should be reasonable to apply to all unbundled loops, whether already in combination or as stand alone unbundled loops.

When determining a reasonable amount of IDLC to assume in the cost model, the Commission looked to information regarding the levels of IDLC that would be found in Ameritech's network in the future. Ameritech's actual amount of DLC for 2000 was 20 percent, 6 percent IDLC and 14 percent UDLC. Ameritech's 2001 Construction Plan, says 87 percent of lines are scheduled for Project Pronto deployment, which uses a next generation form of IDLC.[73] The Commission determines that IDLC could make up as much as 93 percent of Ameritech lines by 2001, based on this data. However, the Construction Plan may overstate the amount of IDLC in light of the changing schedule for the deployment of Project Pronto.

In addition, the Commission considered that some loops will be ordered as stand-alone unbundled loops and will not need to be converted to UDLC as they will already be on copper facilities. Other loops will be ordered as stand-alone unbundled loops and will need to be converted to UDLC. Others will be purchased in combination and use whatever technology is currently serving the retail customer. The CLECs did not give any reason why their 60/40 split would be reasonable. Given the levels of IDLC and UDLC forecasted for the network, and the varying needs for conversion, the Commission determines that a reasonable proportion to use when developing unbundled loop rates is 50 percent IDLC and 50 percent UDLC.

Another option was presented where Ameritech would charge the lower IDLC rate for the unbundled loop, even though it would actually need to provide some loops via the more

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[73] Exhibit 136.

expensive UDLC technology. The Commission rejects such an arrangement as it would prevent Ameritech from recovering the costs of providing the unbundled loop based on technology that can reasonably be implemented today.

This is an area where available technologies are changing rapidly. It is important for Ameritech to consider the needs of CLECs when making network design decisions. It would be unreasonable for Ameritech to select a technology that requires digital to analog conversions to provision unbundled loops, if methods become available in which loops using integrated technologies can be directed to CLECs without the need for such conversions.

Subloop Elements

At issue is what subloop elements should be provided and how they should be costed out. There are four distinct items at issue with regard to the subloop elements: (1) application of the loop cost study adjustments made; (2) subloop elements for unbundling Project Pronto; (3) double counting of costs in the subloop elements, and (4) subloop elements to access multiple-dwelling-unit and campus style environments. Because the matters in dispute are quite different, each of these items will be separately addressed below.

Application of Loop Cost Study Adjustments to the Subloop Cost Study. It is undisputed in the record that in determining its unbundled subloop costs, Ameritech relied on the same investment data developed by Local Facilities Analysis Model (LFAM) for its unbundled loop cost study. For each subloop segment, Ameritech said it extracted the equipment and facility component costs that make up that segment from the LFAM unbundled loop results to estimate the cost of that segment. The CLECs, therefore, requested that whatever adjustments the Commission makes to Ameritech's unbundled loop cost study also apply to its subloop costing.

The Commission believes the CLECs' request is appropriate. There is no need for the CLECs to readdress on the record all the same cost adjustments twice when Ameritech agreed that the LFAM model results also applied to the subloop study. Whatever adjustments the Commission makes to develop loop costs should also be applied to the subloop cost study.

Subloop Elements For Unbundling Project Pronto. Ameritech provided cost and price information on the following subloop elements which the FCC requires:

- CO (MDF) to SAI (FDI)
- CO (MDF) to Terminal
- SAI (FDI) to Terminal
- SAI (FDI) to NID (or AW allows to SPOI[74] or MPOE[75])
- Terminal to NID (or Ameritech allows to SPOI or MPOE)

In addition, for connections to an ECS collocated at an RT, Ameritech adds the following subloop elements:

- CO(MDF) to ECS
- ECS to SAI (FDI)
- ECS to Terminal
- ECS to NID (or Ameritech allows to SPOI or MPOE)

The CLECs requested that in addition to those subloop elements, the Commission direct Ameritech to file cost studies supporting at least the following UNEs for unbundling of Project Pronto:

- Collocation of an Ameritech-owned or CLEC-owned ADLU card, or any other technically feasible line card, in the NGDLC
- A port on the OCD in the CO
- Lit fiber subloops from the RT to the OCD (in the CO) including: (a) permanent virtual circuits (PVCs); (b) permanent virtual paths (PVPs); and (c) time-division-multiplexed (TDM) circuits available for transport between the RT and the OCD. Specifically, PVPs and PVPs provided in the following formats:

[74] Single Point of Interconnection. (SPOI).

[75] Minimum Point of Entry (MPOI)..

- (ITU-T)[76] Quality of Services Classes A, B, C, D;
- ATM Forum Quality of Service Classes 1, 2, 3, 4; and
- Service Class Categories:
- Available Bit Rate,
- Constant Bit Rate;
- Variable Bit Rate- real time;
- Variable Bit Rate-not real time, and
- Unspecified Bit Rate.

There was considerable debate in the record about the legality and feasibility of providing access to the subloop elements the CLECs requested. The Commission addressed the issue of unbundling Project Pronto, including technical feasibility, in a separate section of this order and determined that Ameritech should only be required to unbundle a Project Pronto loop as an end-to-end UNE or UNE-P. Therefore, the matter of subloop elements for that purpose is moot and need not be further discussed in this section.

Double Counting Of Costs In The Subloop Element. Ameritech argued that its subloop cost study does not "double-count" investments in splice cases and terminals. Ameritech reasoned that carving up the loop into subloops and allowing CLECs to interconnect at various points along the loop involves additional costs--costs that do not arise when providing the whole UNE loop as a single entity. Ameritech argued that these costs are appropriately recovered in the recurring subloop rates. Therefore, Ameritech argued, it was reasonable to expect that simply adding the recurring rates for each of the subloops would not equal the recurring rate for the whole UNE loop.

The CLECs argued that Ameritech's subloop unbundling cost study "double counts" investments in splice cases and terminals. As evidence of this "double counting," the CLECs

[76] International Telecommunications Union-Telecommunication Standardization Sector (ITU-T).

pointed to the fact that a combination of unbundled subloops equaling the entire unbundled loop is more expensive to purchase than is the unbundled loop purchased as a whole. The CLECs reasoned that it was logical to expect that unbundling the loop into subloop elements might impact the nonrecurring charges associated with accessing a certain subloop element, but it should not have a similar impact on the investment-related costs that are reflected in the monthly recurring rate.

The CLECs argued that the investments associated with splice cases, terminals, and other pieces of equipment where a competitor might access a subloop, are booked to the copper or fiber cable account specific to the type of cable the equipment supports. Hence, expenses associated with these pieces of equipment, that must also be present within a complete unbundled loop, are recovered through the cable expenses already included via the LFAM model and incorporated in the cost study. The unbundled loop study does not contain a separate rate element associated with recovering expenses for this equipment.

In defense of its subloop costing, Ameritech pointed out that not every subloop cost component occurs on every UNE loop. Ameritech explained that the UNE loop study accounts for this by including only the cost times the occurrence percentages for each component rather than 100 percent in each UNE loop. Ameritech argues that its methods avoid double recovery by excluding from loop costs those costs that are included in subloops.

The Commission finds it reasonable to expect that the sum of the subloop components would be greater than the UNE loop purchased as a whole. That is because of the subloop connections that must be added that are not required for end-to-end UNEs. Although the CLECs question whether the connecting hardware used for the loop UNE is applied to the subloop UNE

in addition to that added for the necessary alternative connections, the Commission is persuaded by Ameritech's explanation that the UNE loop study uses occurrence percentages for each subloop component to account for the fact that every subloop component does not occur on every UNE loop. The Commission thus finds that Ameritech's cost methods for subloop offerings do not result in double counting of facilities or equipment used to provide CLECs access to subloop elements.

Access in Multiple-Dwelling-Unit (MDU) and Campus Style Environments. In order to reach customers in MDUs and in campus-type environments (such as universities, corporate parks, *etc.*), CLECs must be able to interconnect directly with Ameritech's facilities in the most efficient, cost-effective manner possible. The CLECs argue that Ameritech's cost study for unbundled subloops fails to permit them efficient access in multiple dwelling units and campus settings.

The CLECs claimed that the points of connection Ameritech showed in its diagrams for a "commercial building," "residential" setting, and "multi tenant building or campus type arrangement" did not provide sufficient granularity to assure nondiscriminatory access by CLECs. The CLECs identified a number of additional specific subloop elements which they argue are required in order to allow CLECs a meaningful ability to compete in certain situations such as MDUs and "campus type" environments.

The CLECs requested that Ameritech be required to submit revised subloop studies that provide for: (1) direct interconnection to Ameritech's house and riser terminal blocks to gain access to house and riser cable in MDUs; and, (2) direct interconnection at single points of interconnection (SPOIs) and minimum point of entry (MPOE) as discussed herein.

The CLECs proposed differentiating the pricing of subloop UNEs for the different connections required environments:

- at the SPOI,
- at the MPOE,
- or both.

To the CLECs this includes allowing CLEC technicians to cross-connect directly to the terminal equipment.

Ameritech explained how its subloop offerings allow CLECs to interconnect to and offer competitive services in MDUs and campus-style environments through a single demarcation point. It stated that the single demarcation point may be used as a SPOI for CLECs to gain access to the inside wire and serve all of the customers in the MDU or campus environment.

Ameritech also claimed that it affords CLECs an adequate opportunity to interconnect in MDU and campus environments that have multiple demarcation points. It further explained that, in accordance with FCC policy,[77] upon request Ameritech will construct, pursuant to a special construction arrangement, a SPOI that affords access to all subloops running to all of the units.

Ameritech explained that its approach blends the various subloops terminating at the customer premises, and only includes the cost of items, such as drop wires, proportionately to the occurrence in the various types of interconnections at the various premises types.

In this instance the CLECs are asking that the prices for subloops with terminations to various types of MDUs and campus-style environments be deaveraged based on the type of interface provided or required at those locations. The Commission does not believe that the CLECs developed a record regarding why such deaveraging is necessary. This docket was not

[77] UNE Remand Order at par. 226.

designed to investigate and address building access issues. Consequently, the record on these issues is not clearly developed and does not adequately support a finding of deficiency in Ameritech's approach to these arrangements or its related costing methods. The Commission, therefore, concludes that Ameritech's subloop offerings sufficiently allow CLECs to interconnect to and offer competitive services in MDUs and campus-style environments.

Fill Factors

Ameritech proposed lower fill factors than the CLECs. A lower fill factor causes higher prices per loop as will be explained in greater detail below. The Commission determines that it is reasonable to use the CLECs' fill factors, which were similar to both the Staff's Run 1 fill factors and the fill factors used by Ameritech in its cost studies filed with the FCC supporting its pay phones cost.[78] The Commission determined that if Ameritech claimed that the higher fill factors in its pay phone cost study cover its long run incremental costs, then it would be unreasonable to accept lower fill factors that increase the cost of an unbundled loop by 300 percent.

A fill factor is part of the calculation of the cost per unit or, specifically for cable and wire, the cost per cable pair.[79] Instead of dividing the cost of a 100 pair cable by 100 units, the cost is divided by the number of usable pairs. This accounts for the fact that there is a need for spare cable and wire such as for defective pairs or pairs that are needed for testing. For example, if 80 cable pairs out of a 100 pair cable are usable, the cost of the 100 pair cable is divided by 80

[78] *Order*, DA 00-347 (March 2, 2000), *also see* Ex. 125.

[79] A single voice grade loop needs a pair of cables.

units to compute the cost per usable cable pair. The fill factor would be 80 percent. As can be seen, the lower the fill factor, the higher the cost per unit.

The FCC describes a fill factor as a necessary part of the calculation of the per loop cost:

> Per-unit costs shall be derived from total costs using reasonably accurate 'fill factors' (estimates of the proportion of a facility that will be 'filled' with network usage); that is, the per-unit costs associated with a particular element must be derived by dividing the total cost associated with the element by a reasonable projection of the actual total usage of the element.[80]

Ameritech proposed and supported substantially higher fill factors in 1996 for the first generation of arbitration agreements following the Telecommunications Act of 1996, and in its Statement of Generally Available Terms and Conditions (SGAT),[81] than the fill factors it now proposes. Ameritech continues to support fill factors similar to those it supported in 1996 for purposes of determining TSLRIC, which determines a price floor to assure prices are above cost. However, it does not support the higher fill factors for determining the cost of unbundled network elements. Ameritech asserts that TSLRIC is intended to prevent predatory pricing, but is not intended to be a sales price, while the "number" established by TELRIC is intended to be a sales price high enough to provide an adequate return on a seller's investment. It is true that TSLRIC is a floor. However, in its filing with the FCC supporting its payphone costs, Ameritech claimed that TSLRIC fill factors cover its long-run incremental costs. As discussed below, Ameritech has indicated that adding spare capacity has very little incremental impact on costs. The only remaining consideration is joint and common costs, which are added into the TELRIC cost studies already.

[80] Local Competition Order at par. 682.

[81] Docket 6720-TI-120, per 47 U.S.C § 271(c)(1)(B), the SGAT is a means of demonstrating an ILEC's markets are open to competition.

The CLECs proposed fill factors of 70 percent for copper distribution and drop, 75 percent for copper feeder, 67 percent for fiber feeder, and 90 percent for electronics. Ameritech filed both the fill factors in its FCC cost study and those in its cost study in this case confidentially. There are different fill factors for different plant components because it is quicker, easier, and less expensive to add increments of some types of plant compared to others. For example, it is quicker and easier to add an electronics card than it is to lay underground cable. The quicker plant can be added, the higher the percentage of that plant that can be used before adding capacity to meet network demand.

Ameritech asserted that its proposed fill factors are based on its actual levels of fill in its network. Ameritech asserted that its actual level of fill has been stable for the last ten years and that it is reasonable to expect fill factors to continue to be about the same. The CLECs asserted that fill factors should be based on efficient use of facilities, consistent with a forward-looking, least-cost methodology. The CLECs asserted Ameritech's new concept basing fill factors on actual levels of fill in the network is unreasonable. The CLECs pointed out that even Ameritech's witness acknowledged that he had previously testified that fill factors should be based on "target utilization goals that realistically reflect efficient network use." The CLECs based their proposed fill factors on such target utilization levels. In addition, the CLECs asserted that changing technology requires changes from Ameritech's "stable" fill factors and that, more importantly, Ameritech's fill factors do not give reasonable results.

Ameritech justified its low fill factors for distribution plant based on what it described as economic realities. Ameritech described the decision between laying a 25 pair cable and a 50 pair cable. After the trench is dug, Ameritech stated that it would only add 1/50th of the cost of

the 25 pair cable to lay a 50 pair cable instead. In this example, if the 25 pair cable is fully used (100 percent), the 50 pair cable would only be 50 percent utilized. In its descriptions, Ameritech says it increases cost by a very small amount to have spare capacity. In its example, adding 1/50th of the original cost would increase costs by just 2 percent.

Staff had Ameritech provide a sensitivity analysis showing the effect of using different fill factors in its model. These were labeled as Run 1, which was similar to the 1996 fill factors, and Run 2, which was between Ameritech's proposed fill factors and the Run 1 fill factors. The CLECs explained that the difference between Ameritech's proposed fill factors and their proposed fill factors was about a 300 percent increase in the costs computed by Ameritech's model.

Ameritech asserts that the higher fill factors cover its costs for purposes of determining predatory pricing. In its narrative example, Ameritech says decreasing the fill factor, or increasing the amount of spare by 50 percent, should only add 2 percent to costs. However, Ameritech's cost model increases cost by 300 percent when the fill factor is changed from the CLEC proposed fill factor to the Ameritech proposed fill factor. While in day-to-day operations, greater amounts of spare may only create marginally small increases in total costs, this factor has tremendous impacts on costs in Ameritech's model. This factor is added as a final multiplier to costs instead of just a small addition to costs.

Considering all of the above, including Ameritech's assertion that the higher fill factors do cover its costs, and its position that adding spare capacity should have very little incremental impact on costs, the Commission determines that the fill factors based on target utilization are the more reasonable fill factors on the record because Ameritech's proposed fill factors cause an

unreasonable increase in costs. Therefore, the Commission determines that it is reasonable to use the CLECs' fill factors in computing unbundled loop costs.

Material Cost Adjustments

Cost of Loop Electronics. At issue is the price to use in the loop cost study for loop electronic equipment; specifically, whether Ameritech correctly used the prices from an older contract. It is also a question of whether or not to use the contract discounts available to Ameritech under SBC's most recent equipment purchase contract.

The CLECs argued that the prices in Ameritech's studies for loop electronics, particularly Digital Loop Carrier (DLC) equipment, should be reduced by applying the discounts available to Ameritech under SBC's most recent contracts with Alcatel. Applying just two of the term and volume discounts available in those contracts produces an effective discount of 16.02 percent off of the prices Ameritech proposed as inputs.

According to the CLECs, since 1992, Ameritech has been receiving discounts of at least the magnitude of those proposed by the CLECs. They testified that at the rate Ameritech is currently purchasing this equipment, it will exceed the CLECs proposed discount.

Ameritech Witness, Mr. Palmer, admitted that there is a new contract that went into effect on November 17, 2000, and that while some prices went up, other prices went down. CLEC Witness, Mr. Starkey, rebutted Mr. Palmer's testimony that there was only a single instance where the price increased. Further, Mr. Starkey asserted that overall the newer contract has lower prices.

Ameritech defended the DLC equipment prices used in the unbundled loop-cost study by showing they were taken from its contract with Alcatel at the time the studies were conducted.

Ameritech argued the even though Ameritech's DLC purchases from Alcatel are now governed by the contract between SBC and Alcatel, it is unreasonable to require cost studies be rerun every time an input changes. Further, Ameritech noted that no one, including the CLECs, has fully reviewed the numerous provisions of the SBC/Alcatel agreement to determine what prices increased and what prices decreased. Ameritech also argued that some of the provisions of the SBC/Alcatel agreement do not even apply to Ameritech, and that the term and volume discounts in the SBC/Alcatel contract are not guaranteed. For example, Ameritech may not buy enough DLC units within the established time frames to trigger the discounts.

The CLECs focused on two discounts that, when applied sequentially, yield an aggregate discount of 16.02 percent. One discount was a standard term discount Ameritech has been receiving since 1992. It is reasonable to include the standard term discount. Another portion of the discount was based on volume. The record evidence was not conclusive that the level of volume discount proposed by the CLECs would actually be achieved. The Commission determines that it is reasonable to use the actual level of discounts Ameritech has achieved in determining the costs of loop electronics. In addition to the specific discount the CLECs proposed, they also proposed that Ameritech should revise its numbers to those in its new contract.

The Commission believes that TELRIC principles require Ameritech to use current contracts to determine price inputs for equipment or services in its cost studies. It is not clear from the record that all prices in the newer contract are lower than those Ameritech used as inputs in the loop-cost study presented in this proceeding. Nevertheless, it is reasonable to

require Ameritech to rerun its TELRIC study with updated costs for loop electronics based on the prices and discounts achieved under the more recent November 2000, contract.

Installation Factor. The subject at issue is commonly referred to in the record as the "in-plant" factors and the issue is what factors to use. In general, the factors include the application of engineering at 4.63 percent and installation at 3.61 percent, for a total of 8.24 percent as the in-plant factor for the placement of equipment in Ameritech's loop architecture. These two components are part of the composite in-plant factor of 13.75 percent.

Ameritech stated that it applied in-plant factors on its DLC units because Alcatel will not bear all costs associated with providing service on those units. Ameritech pointed out that even under the current SBC/Alcatel contract, Ameritech is still required to bear the costs of turning up service on Alcatel DLC units so use of installation factors in the cost study to recover these costs is necessary.

Ameritech states it applied an in-plant factor to account for taxes, transportation, and other material handling costs incurred by Ameritech, but not included in the vendor prices, such as for the Litespan plug-in cards used in providing basic service.

Ameritech went on to show that it did not apply its higher "hardwire" factor (2.4194 times material cost) for installation costs. Instead, it claims to have only applied much smaller factors to account for the engineering and installation costs it actually incurs. Further, Ameritech claimed those smaller in-plant factors are based on a 3-year average of costs actually incurred for similar vendor-installed equipment. These costs include direct labor and overhead loading for its facilities, network services, and engineering personnel associated with the construction activity.

The CLECs believe Ameritech improperly includes "in plant" factors which result in a double recovery of the costs of installation of the DLC equipment. In defense of their position, the CLECs cite the contract Ameritech uses to purchase DLC equipment, which contains the following provision:

> Seller agrees to install, at the prices set forth herein the products ordered hereunder, including all necessary cabling, connection with buyer supplied power, utility and communication services, and in all other respects make the equipment ready for its intended use.

The CLECs argued that Ameritech's cost study applies a markup of 8.24 percent for "telco engineering" and "telco installation" to each piece of equipment purchased by Ameritech under this contract. The CLECs contend that the contract for the loop electronics already includes 100 percent of the cost of installation. They also state that Ameritech admits that it adds maintenance costs to "in plant" factors. Application of each of these factors, they believe, results in a double recovery of costs since Ameritech also applies a separate maintenance factor to cover maintenance costs.

Ameritech did not apply the full set of "in-plant" factors for installation of the Alcatel DLC equipment under this contract, but only the factors it deemed applicable. The Commission does not believe that the record evidence the CLECs provided, which attempts to refute Ameritech's use of installation factors for Alcatel DLC equipment, is persuasive. Therefore, Ameritech's use of installation factors to make Alcatel DLC units ready for service is adopted for cost study purposes. The Commission finds these factors are reasonable and appropriately permit Ameritech to recover the costs it actually incurs and do not result in double recovery.

Inventory Factor. The question of what inventory factors should be used is also in dispute. This factor adds costs to installed equipment to account for costs associated with

materials and equipment inventory used to replace or make plant ready for service. Ameritech did not submit testimony on this issue but argued in its brief that the inventory factors account for the costs it incurs to maintain sufficient equipment inventory to properly provision and maintain DLC-provided loops. The CLECs did not dispute this point in their briefs. Therefore, the Commission finds that no adjustment to the cost study on the inventory factors is necessary, and they are deemed reasonable. Therefore, Ameritech's inventory factors are adopted.

Cable Gauge. At issue is Ameritech's use of 22-, 24- and 26-gauge copper cable in its composite cable costs. The cable gauge is a measure of the thickness of the wires in the cable sheath. The lower the number, the thicker and more costly the wire. CLECs argued that for TELRIC purposes, only the 26-gauge cable is appropriate for use in a network with DLC. The CLECs point out that while longer copper runs with lower gauge (heavier) cable was previously needed for quality assurance or bandwidth for certain services, this is no longer needed in an efficient network. Advances in technology, such as filled cables and more efficient splicing apparatus, have reduced the need for heavier gauge cable in forward looking networks. The CLECs conceded on the record that throughout the time horizon of Ameritech's forward-looking costs studies, copper distribution will be required.

Ameritech argued that the mix of cable gauges it used in its cost studies is appropriate. Ameritech states that the existing network is a mix of these 3-cable gauges, and that as long as it has copper in the network it will have a mix of the three gauges.

The CLECs calculated that the effect of incorporating the lower gauges is to increase the cost of the cable cost input by 22-31 percent. CLECs pointed out that several previous

Ameritech forward-looking cost studies, including the one Ameritech filed in docket 6720-TI-120, used only the 26-gauge cable assumption.

Ameritech's use of a mix of 22-, 24-, and 26-gauge copper cable in its loop plant is not forward looking. Use of the heavier, 22- and 24-gauge cable was more prevalent when the facilities consisted entirely of copper, which is not the case today. Now that network facilities consist of a mix of fiber and copper, as is characteristic of Project Pronto loop architecture, the copper runs are decreasing in length, and thus the need for the heavier gauge cable is significantly reduced.

Therefore, the Commission finds the 26-gauge cable assumption previously used in Ameritech's cost studies in Wisconsin and other states is the more reasonable TELRIC study assumption. Ameritech should replace the 22-, 24-, and 26-gauge cable mix assumption in its TELRIC loop cost study with the exclusive 26-gauge cable assumption.

Other Expenses-Billing System. These other expenses consist of a total $0.05 per line in costs for the following activities: Billing System Reprogramming, the Development of Methods and Procedures, and Integrated Testing. The CLECs allege these are one-time start-up costs and not appropriate to include in the TELRIC loop study. If included, the CLECs believe they should have a sunset date at which time they will be removed from TELRIC and the rates reduced.

Ameritech counters that only $0.02 of the costs are start-up related and those included in the earlier study were spread over a longer horizon than would have allowed for recovery to this point. Further, Ameritech argues that TELRIC studies assume no sunk costs and these costs are incurred when providing UNEs. Ameritech also states that $0.03 of the $0.05 of these costs are

not one time, start-up expenses, but instead are ongoing, recurring expenses. Second, Ameritech argued that start-up costs included in its 1996 cost studies have not been recovered, because the demand over which costs were spread has not materialized. Further, there are many new UNE services offered since 1996 (e.g., UNE-P, ULS-ST,[82] xDSL) that require additional modifications, and new methods and procedures. Finally, regarding the CLEC argument that these billing system costs are "sunk" because they have already occurred, Ameritech responded that in the forward-looking TELRIC methodology there are no sunk costs. Thus these costs are forward-looking and should be included in a TELRIC study to reflect that the network is constructed new, methods and procedures must be written, and billing systems must be modified.

CLECs also argue that a large portion of these billing system costs are related to CABS billing system revisions which are not related to UNE loop billing. The CLECs argue that these expenses, inasmuch as they are actual and justified, should be added to joint and common costs and spread over all Ameritech's services to which they apply, including Ameritech's retail service.

The billing system expenses added as "other expenses" are a very small cost and Ameritech adequately justifies them as properly included in its TELRIC study. Therefore, no adjustment to Ameritech's cost study is necessary.

Maintenance

Maintenance factors are ratios or percentages that are applied to investment dollars to estimate yearly maintenance, repair, and other expenses relating to various plant types. For example, if a maintenance factor is 0.0500 and there is $10,000 in equipment costs, then the

[82] Unbundled Local Switching Shared Transport (ULS-ST).

$10,000 is multiplied times the 0.0500 maintenance factor to arrive at an estimated yearly maintenance, repair, etc., cost of $500 ($10,000 times 0.0500). A maintenance factor is the ratio of the investment value of a particular piece of equipment and the maintenance cost incurred on that piece of equipment.

Using accounting data, Ameritech proposed maintenance factors that were higher than its actual 1998 maintenance factors. Ameritech derived these factors by developing forward-looking average annual investments over a 3-year time period for each plant account, adjusting historical accounting costs to current costs and applying labor-based inflation rates.

The CLECs proposed a series of adjustments to Ameritech's maintenance factors as they asserted it is unreasonable for Ameritech's maintenance factors to increase while historical trends showed decreasing maintenance to investment ratios. The Commission evaluated each of these proposed adjustments and adopts some, but not all, of the CLECs' proposed adjustments.

The CLECs presented evidence showing that Ameritech experienced declining maintenance factors from 1990 to 1999 based on historical data. The Commission determines that increasing maintenance factors are not reasonable in light of these declining trends.

The CLECs proposed reducing Ameritech's labor inflation rate to 2 percent from 1996-1997, and removing labor inflation from its 1998-2001 forecast. Ameritech asserted that its labor inflation rates were developed starting with the Bureau of Labor Statistics' Employment Cost Index and then forecasting future increases based on the actual changes in salaries, wages, and employee benefits that Ameritech will pay to its employees. The CLECs did not provide any explanation as to why 2 percent would be more reasonable than Ameritech's estimate.

Accordingly, the Commission determines that Ameritech's labor inflation rates are better supported and adopts those rates.

The CLECs proposed adding a productivity offset in calculating maintenance costs. The Commission determines that it is reasonable to include a productivity offset, as even Ameritech's allowable price changes include both inflationary increases and productivity offset decreases. The Commission determines that a 3 percent productivity offset is reasonable based on Ameritech's current productivity offset factor.

The CLECs proposed that the investment denominator should be increased by the growth in lines. While the Commission agrees with this adjustment in the calculation of the joint and common costs factor, the calculation of the joint and common costs factor was different. That calculation included general and administrative costs divided over all plant related expenses. The type of expenses that were allocated was not directly related to plant expenses. This maintenance factor calculation includes plant specific maintenance expenses divided over plant specific investments. It would seem that maintenance expenses should increase if the amount of plant increases. Accordingly, the Commission determines that it is not reasonable to add line growth to the maintenance factor calculation.

The CLECs asserted that maintenance factors should decline based on the decline Ameritech experienced from 1990 to 1999. Ameritech criticized this analysis as inaccurate in that it was based on a composite of all types of plant, did not analyze the different types of plant separately, and did not reflect the cost of forward-looking plant. The Commission determines that it is not reasonable to make the CLECs' proposed adjustment. The declining maintenance expenses will likely be captured in the adjustment the Commission makes below, where

maintenance expenses associated with fully depreciated plant are removed. The replacement of older plant with newer plant is a likely driver of the reduced maintenance costs which Ameritech has experienced and that would be expected to continue in the future.

The CLECs proposed to remove maintenance expenses in proportion to the amount of plant that is fully depreciated. Ameritech's maintenance factor calculations started from their actual maintenance expenses, which are based on a blend of old and new plant in the network. Newer, more advanced, technology is generally designed to require less maintenance and to operate with less manual intervention. Given that the oldest equipment generates proportionally more maintenance expenses, and given that Ameritech includes the maintenance and repair expenses associated with equipment that is beyond its economic life, the Commission determines that it is reasonable to make the CLECs' proposed adjustment, which removes maintenance expenses in proportion to the amount of plant that is fully depreciated.

Use of expenses based on accounting costs which reflect embedded equipment is contrary to the forward-looking, most-efficient TELRIC concept. In order to determine what portions of the plant types were beyond their various economic lives, the CLECs' witness used the midpoint of the FCC depreciation ranges and rounded up to the nearest whole number. The analysis was specific to each kind of plant. The Commission finds that this is a reasonable means of determining the amount of plant that would be fully depreciated.

Depreciation

Ameritech proposed that the Commission adopt the same economic lives in this proceeding that it approved in Docket 05-DT-102. The CLECs asserted that the Commission should use the FCC-approved depreciation lives and salvage factors. The Commission

determines that using the longest lives in its most recent order in docket 05-DT-104 order is reasonable for determining depreciation rates for the cable and wire accounts.

In making this decision, the Commission reviewed the current FCC ranges for depreciation rates as adopted in CC Docket No. 98-137[83]. The Commission also reviewed its most current ranges for depreciation rates as established in docket 05-DT-104, adopted January 17, 2001. While both parties refer to a source for depreciation ranges, Ameritech applied the shortest life in this Commission's range. The CLECs proposed using the FCC's depreciation ranges, but it is not clear if they were proposing use of the midpoint of the range, or some other number within the range.

In making its decision concerning switching equipment, there was overlap between this Commission's depreciation ranges and the FCC's ranges. However, on most cable and wire accounts there is no overlap between the ranges. For all of the cable and wire, this Commission's longest life is 22 years. This is still shorter than the FCC's shortest life of 25 years. Accordingly, the Commission determines that the depreciation rate should be within Wisconsin approved ranges, but that it is reasonable to use the longest life in the range in light of the other information available about depreciable lives.

Miscellaneous Uncontested Loop Costing Issues

Fiber/Copper Cross-Over Point. The issue is at what loop length one should assume a cross-over from placement of copper loop facilities to placement of fiber-loop facilities.

Ameritech assumes a fiber versus copper cross-over point of 6,000 feet, which it believes is the least-cost, forward-looking design for use in fiber facilities. The CLECs did not indicate

[83] 1998 Biennial Regulatory Review of Depreciation Requirements for Incumbent Local Exchange Carriers, FCC 99-397 (Dec. 30, 1999).

any specific adjustments to Ameritech's use of this cross-over point in the loop-cost study, stating that they are currently a *de minimus* portion of Ameritech's costs.

Given the lack of evidence to the contrary, it is reasonable to use Ameritech's fiber/copper cross-over point of 6,000 feet in a forward-looking design of fiber loop facilities.

Proportions of Aerial, Underground and Buried Cable. The relative proportions of aerial, underground and buried cable that should be used for the TELRIC loop study are at issue. Ameritech did not submit testimony on this issue. The CLECs have not specifically addressed these issues either. The CLECs did not indicate specific adjustments to these factors, stating that they are currently a *de minimus* portion of Ameritech's costs.

Given the lack of evidence to the contrary, the proportions of aerial, underground, and buried cable used in Ameritech's cost study appear reasonable and will not be adjusted by the Commission.

Pole and Conduit Costs. The issue is how pole and conduit costs should be allocated to Ameritech, to CLECs, and to other third parties. Ameritech and other public utilities in Wisconsin pay each other rent for using the other's pole and conduit facilities. In its cost study, Ameritech reduces the cost of its poles by the amount of rent it receives from other public utilities, and it increases the cost of its poles by the amount of rent it pays to other utilities. Ameritech Witness, Mr. Palmer, described the Net Rent Revenue adjustment and how it is used to net the rent payments between Ameritech and public utilities for using each other's pole and conduit facilities. The CLECs did not indicate specific adjustments to Ameritech's treatment of pole and conduit costs, stating they are currently a *de minimus* portion of Ameritech's costs.

Due to lack of evidence to the contrary, Ameritech's Net Rent Revenue adjustment is a reasonable method to allocate pole and conduit costs between Ameritech and third parties.

Construction Charges

Ameritech proposed a variety of construction charges associated with its Facilities Modification and New Build Policies. Ameritech proposed that these charges should be upfront charges and not monthly recurring charges. The CLECs objected to every upfront construction charge proposed by Ameritech and asserted the charges should not be allowed or should be monthly recurring charges. These types of charges result from three different kinds of work: conditioning charges, IDLC conversion charges, and new build charges. Conditioning charges are caused by removing load coils, bridge taps and other devices that impede the provision of data services over a copper loop. IDLC conversion charges are caused by adding equipment to convert from IDLC to UDLC technology. New build charges are associated with building new facilities where facilities do not already exist. As each of these charges reflects different types of work, each kind of charge is discussed separately below.

New Build**.** Ameritech asserted that its policy for determining when it would charge for building new facilities was reasonable. The CLECs opposed the charges for building new facilities, asserting the policy was a departure from past practice, was bad public policy, and that the costs were already recovered in the monthly recurring loop rate. The Commission deferred action on this issue as similar issues were recently resolved in another proceeding, and building new facilities has been included as an issue in a third docket.

Testimony was filed in this docket prior to the opening of docket 6720-TI-167, *Complaint Against Ameritech Wisconsin Filed By Wisconsin Builders Association, Inc.,*

(Builder's Complaint). The notice in the Builder's Complaint states that the docket would address concerns regarding construction charges to developers ("construction charges tariff"). The WBA alleged that Ameritech's construction charges tariff is unjust and unreasonable because it allows Ameritech multiple recovery of costs, allows an unreasonable overcharge relative to actual costs, and contains exception language that "eviscerates" the tariff. Hearings were held, but after the hearing the Builder's Complaint was settled by Stipulation. The Commission issued an order dismissing the case on December 17, 2001. As part of the Stipulation, Ameritech agreed to withdraw the constructions charges tariff and file a new tariff that reflects its pre-1998 construction policy. At its open meeting on December 11, 2001, the Commission decided to address the three remaining issues from the Builder's Complaint in docket 6720-TI-166, *Investigation Into an Alternative Regulatory Plan and Other Relief Respecting the Retail Service Quality of Wisconsin Bell, Inc.,* (Ameritech Alternative Regulation).

As the Stipulation and order closing the Builder's Complaint docket, as well as referral of the remaining issues to the Ameritech Alternative Regulation docket, occurred so close in time to the Commission's oral discussion in this case, and because the Ameritech Alternative Regulation docket will deal with related issues, the Commission decided to defer this issue to that docket.

Line Conditioning Charges. Ameritech proposed upfront charges for the costs associated with line conditioning. Line-conditioning is sometimes necessary in order to make a loop that can carry voice traffic capable of providing high-speed data traffic [a DSL-capable line.] This involves removing certain features that were designed to facilitate voice service but that inhibit data service, such as load coils, bridged taps, and repeaters. The CLECs asserted that they

should not be charged separately for this work. The Commission determines that it is reasonable for Ameritech to charge for line conditioning; however, the charge should be a monthly recurring charge that applies to all orders of DSL capable loops.

Ameritech proposed various combinations of rates for line conditioning work, based on its experience with the time and materials necessary to do this work. Ameritech proposed that when conditioning work is necessary, the CLEC ordering that loop would pay the full charge as the CLEC's request caused the need for the construction.

The CLECs argued that they should not be charged at all for line-conditioning because Ameritech should have done this work long ago. The CLECs asserted that the costs for line-conditioning are already recovered in TELRIC rates as these rates are based on technologies that are capable of providing high speed data traffic.

The FCC has determined that ILECs are allowed to charge CLECs for line-conditioning. The FCC stated:

> Our definition of loops will in some instances require the incumbent LEC to take affirmative steps to condition existing loop facilities to enable requesting carriers to provide services not currently provided over such facilities. For example, if a competitor seeks to provide a digital loop functionality, such as ADSL, and the loop is not currently conditioned to carry digital signals, but it is technically feasible to condition the facility, the incumbent LEC must condition the loop to permit the transmission of digital signals . . . . The requesting carrier would, however, bear the cost of compensating the incumbent LEC for such conditioning.[84]

The FCC reaffirmed this principle of cost recovery in the *UNE Remand Order* where it reiterated that incumbent LECs should charge for conditioning loops, even if that involves the removal of features that would not be installed if the loop were constructed using present-day technology:

[84] Local Competition Order at par. 382.

> In the *Local Competition First Report and Order*, the Commission also stated that requesting carriers would compensate the incumbent LECs for the cost of conditioning the loop. Covad and Rhythms argue that, because loops under 18,000 feet generally should not require devices to enhance voice- transmission, the requesting party should not be required to compensate the incumbent for removing such devices on lines of that length or shorter.
>
> We agree that networks built today normally should not require voice-transmission enhancing devices on loops of 18,000 feet or shorter. Nevertheless, the devices are sometimes present on such loops, and the incumbent LEC may incur costs in removing them. Thus, under our rules, the incumbent should be able to charge for conditioning such loops.[85]

The Commission determines that Ameritech should be allowed to assess a separate charge for conditioning.

The CLECs argued that if Ameritech is allowed to charge for line conditioning, the charge should be a monthly recurring charge applicable to all loops. The CLECs submitted their own cost studies based on having all lines in a binder group conditioned at the same time, with no bridge tap restoral, and using their own estimates of activity times and materials prices. The CLECs developed a monthly recurring charge based on a 5-year life and allocating the costs to all unbundled loops.

The CLECs argued that these kinds of costs should be capitalized and recovered over time as the work adds a new element of functionality to a loop; that is, to convert a loop from one that is only capable of providing voice grade service into a loop that can provide high speed data service over the rest of its useful life. The CLECs argued that line conditioning costs should be recovered from all loops since all loops will eventually become DSL capable as impeders are removed.

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[85] *UNE Remand Order* at par. 192-93 (Footnotes omitted).

The Commission agrees with the CLECs that it is reasonable to recover conditioning costs in a monthly recurring charge over time as the high speed functionality will be shared or reused by other users of the network. Without any other alternative, the Commission accepts the CLECs' proposed life of five years. However, the Commission does not agree that the cost should be recovered from all loops.

In arguing that CLECs should be charged directly for the cost of line conditioning, Ameritech pointed out that it would not be reasonable to allocate these costs to voice loops as most end users are only purchasing voice grade service and do not benefit from line conditioning. To allocate costs to voice grade loops would have voice service subsidizing data service. The Commission agrees that it would not be reasonable to allocate line conditioning costs to voice grade loops.

The CLECs argued that line conditioning costs should reflect the efficiency of performing conditioning of all lines in a binder group at one time. The Commission determines that it would be reasonable to use Ameritech's actual historical average costs to develop a single-line conditioning charge. Historical costs should reflect efficient practices that perform multiple jobs when possible. Further, by using average actual costs, there will only be one rate needed for line conditioning instead of multiple rates reflecting different combinations of work.

Based on the information available, the Commission provides the following instructions regarding the computation line conditioning charges. Ameritech presented data for the frequency of both complex modifications (which are primarily line conditioning work) and IDLC conversions, and the total numbers of unbundled loop orders. Seeing this kind of data, it is reasonable to expect that Ameritech will have the same kind of data for the number of loops

ordered that incur line conditioning charges and the numbers of DSL capable loops ordered. Using this data, Ameritech can reasonably compute the frequency with which line conditioning is necessary for orders of DSL capable loops. Likewise Ameritech should also have historical data from which to develop its actual average line conditioning costs, and then to develop a monthly recurring charge. Based on the data for the frequency with which line conditioning is necessary, the costs of line conditioning can be allocated to all orders of DSL capable loops in a manner similar to that used to reflect the frequency of IDLC conversions.

Loop Qualification. ILECs are required to provide CLECs with access to all loop information necessary for determining the suitability of a loop for providing Digital Subscriber Line (DSL) services.[86] This includes information such as loop length and the presence of impediments such as load coils, bridged taps, or repeaters. There was not enough information on the record for the Commission to make any determination on this issue.

The CLECs asserted that all the information necessary for Ameritech to identify the characteristics of a loop is already contained in Ameritech databases, or should be. Therefore, the forward-looking cost of providing this information would be *de minimus*. The CLECs asserted that Ameritech should not be allowed to charge for this information. Ameritech acknowledged that it did not file a cost study in this proceeding, but claimed that it should not be precluded from determining appropriate charges for this service in the future. Accordingly, the Commission could not determine if the costs are *de minimus* or whether it would be reasonable to charge for this information. Ameritech will need to file cost studies and explain the basis for developing forward-looking costs before assessing any charge for this service.

[86] *UNE Remand Order* at pars. 427-428.

IDLC Conversion Charges. Ameritech proposed upfront charges for costs associated with adding equipment to convert a line from IDLC to UDLC technology. The CLECs asserted that Ameritech should not be allowed to charge for conversions from IDLC to UDLC technology. The Commission determines that Ameritech should be allowed to charge for conversions from IDLC to UDLC, but that the charges should be developed as monthly recurring charges using TELRIC demand assumptions, and 1 percent of this monthly recurring charge should be added to the cost of all unbundled loops.

Ameritech identified situations in which it is not proposing any charges for IDLC conversion and other situations in which it is proposing charges. Ameritech explained it would not charge for making a line station transfer where an Ameritech customer's line that is not provisioned with IDLC is switched with the CLECs' customer line that is provisioned with IDLC. Ameritech explained that it only proposed a charge when there are no non-IDLC facilities on which the requested IDLC loop can be placed, so that Ameritech needs to design and construct facilities. Ameritech presented data on unbundled loop orders from March through September of 2000. This showed that in Wisconsin this occurred on only 0.2 percent of loop orders. Ameritech estimated that these charges will occur on less than 1 percent of requested unbundled loops. Ameritech proposed that when an IDLC conversion is necessary, the CLEC ordering that loop would pay this full charge as the CLEC's request made the construction necessary.

The CLECs asserted that costs for IDLC conversions are already included in the TELRIC-based monthly loop rates so there should not be a separate charge. In addition, they

argued that ILECs should not be allowed to charge for IDLC conversions as the cost is not a forward-looking efficient cost and the charges are discriminatory.

The CLECs argued that Ameritech's installation, maintenance or other factors are already included the costs of IDLC conversions. Ameritech performs a number of conversions for which it does not have a specific charge, and those costs are probably included in such factors. However, where the charges are for facilities constructed, the costs are most likely in the plant accounts, which would not be in the TELRIC cost unless specifically added to it. The Commission does not agree with the CLECs that IDLC conversion costs are included in TELRIC loop costs.

The CLECs argued that the costs simply should not be allowed. However, the FCC has determined that ILECs should be allowed to recover the costs of IDLC conversions. The FCC stated that while ILECs must provide access to loops served by IDLC, the cost of "separating out individual loop from IDLC facilities … will be recovered from requesting carriers."[87] Accordingly, the Commission determines that it is reasonable for Ameritech to recover the cost of IDLC conversions.

The CLECs argued that Ameritech's method of recovering IDLC conversion costs impedes competition as they do not know if there will be IDLC conversion charges until after they have placed an order and Ameritech determines that it can not make the conversion using other methods. The CLECs explained that the nature of the charges adds a level of uncertainty that makes it impossible for CLECs to accurately communicate with prospective customers. The Commission agrees with the CLECs that the upfront charges could have the effect of inhibiting

[87] Local Competition Order at par. 384.

competition. The charges are unpredictable and could make it difficult to communicate accurately with prospective customers.

The CLECs also argued that the IDLC conversion construction charge benefits other parties that use the facilities in the future. The CLEC is required to pay the entire cost of the facility conversion even if it later turns the facility back over to Ameritech for Ameritech's own use in providing service to its retail customers over the remaining economic life of the facility. The CLECs argued they are being charged to build a more robust network to be used to serve Ameritech customers at the CLECs' expense. The CLECs argued that Ameritech's proposal that the "first person in" pays the entirety of the charge penalizes a CLEC who happened to sell service to a customer who resides in an area that is served through IDLC facilities by Ameritech. The CLECs also argued that Ameritech charges a single CLEC for UDLC electronics that could be used to support 700 UDLC loops.

The Commission determines that the facilities constructed will have a life of greater than one year and can be shared or reused by future users of the network. The Commission determines that it is not reasonable to charge a single CLEC for these facilities. This would be inconsistent with long standing principles of depreciation. The Commission further discusses criteria for determining when a charge should be a recurring charge and when a charge should be a nonrecurring charge in its discussion in the nonrecurring costs section of this order. The Commission determines that it is reasonable to require the use of monthly recurring charges for this type of costs.

In addition, the Commission agrees with the CLECs that it is inconsistent with TELRIC principles to charge a single CLEC for equipment that can be used to serve 700 other lines. As

discussed in the pricing standards section of this order, TELRIC should reflect total demand. It is reasonable to require Ameritech to develop the monthly recurring charges using TELRIC principles based on total demand.

Ameritech provided a range of $1000 to $100,000 for the upfront cost of IDLC conversions. The cost varies based on the kinds of facilities needed to make the conversion. In developing the monthly recurring charge, it is reasonable for Ameritech to use its average cost based on its historical experience with IDLC conversions.

The CLECs argued that IDLC charges are effectively charges to move the CLECs off of the efficient forward-looking network that Ameritech intends to use to serve its own retail customers and put CLECs onto a facility that Ameritech is attempting to abandon in favor of its new technology. The CLECs argued that Project Pronto is not an overlay network, and that the deployment of Project Pronto will increase the frequency with which CLECs will be charged for UDLC conversions, effectively making it impossible for CLECs to compete for any customer that is served by IDLC by Ameritech.

The Commission agrees with the CLECs that Ameritech's policies should not relegate CLECs to a separate and more costly network. Ameritech provided the estimate that IDLC conversion costs will only be necessary for 1 percent of unbundled loops. The Commission determines that the IDLC conversion costs would not be unreasonable if the costs only occur for 1 percent of the unbundled loops. However, due to the low frequency of occurrence, the Commission is concerned that the cost of IDLC conversion may fall disproportionately on a particular CLEC in a hit or miss fashion. Accordingly, the Commission determines the monthly

recurring charges as described above should be multiplied by 1 percent and added to the cost of all unbundled loops so all users of unbundled loops share equally in IDLC conversion costs.

Nonrecurring Costs

Nonrecurring costs are one-time costs for activities required to initiate or provide telecommunications services and UNEs. Such activities are accomplished through Ameritech's Operation Support Systems (OSS). Models used to determine nonrecurring costs focus on three items: the *tasks* involved, the *activity times* needed to perform the tasks, and the *probability* that a task will be required. Ameritech presented its nonrecurring cost model, and the CLECs presented their model called the Non-Recurring Cost Model (NRCM).

Pricing Standard. The parties in this docket agreed on the basic methodology to be applied in an NRC model, but there was significant disagreement regarding the actual inputs that should be used. The disagreements stem from the parties' differing views over the appropriate implementation of forward-looking costs.

As discussed in the general pricing standard discussion, all parties agree that TELRIC is the required methodology for determining rates for UNEs.

To interpret and apply TELRIC, Ameritech looks to the Iowa Utilities Board *(IUB3)* determination of the Eighth Circuit related to the pricing requirements of the TA 96. In particular, Ameritech cited the following two paragraphs:

> [A] forward-looking cost calculation methodology that is based on the incremental costs that *an ILEC actually incurs or will incur* in providing the interconnection to its network or the unbundled access to its specific network elements requested by a competitor will produce rates that comply with the statutory requirement of § 252(d)(1) that an ILEC recover its "cost" of providing the shared items. [88]

[88] *IUB3* at 752-753. (emphasis added).

> It is clear from the language of the statute that Congress intended the rates to be "based on the cost … of *providing the interconnection or network element*," *id*. (emphasis added), not on the cost some imaginary carrier would incur by providing the newest, most efficient, and least cost substitute for the actual item or element which will be furnished by the existing ILEC pursuant to Congress's mandate for sharing. Congress was dealing with reality, not fantasizing about what might be.[89]

Ameritech implements "forward-looking" based on the expected systems or process enhancements Ameritech plans to put in place over the foreseeable future. Ameritech uses a 3-year time horizon. Ameritech argued that NRCs must be based on the systems that Ameritech has actually put in place with the degree of mechanization they plan to make in the near future. Ameritech further argued that forward-looking costs should be based on its systems or it will be denied recovery of costs it will actually incur. It argued that anything else is fantasizing about some imaginary, most efficient provider.

However, the Commission recognizes that the CLECs do not have a choice to look to another provider to order loops, which were constructed and placed into service under decades of monopoly regulation. Ameritech lacks sufficient market incentive to control costs in the provision of UNEs to CLECs. If Ameritech designs and constructs inefficient or suboptimal systems and is allowed to pass on these costs to CLECs, it increases CLECs' cost of doing business. In addition, if Ameritech's own retail ordering and provisioning systems are designed to cost less to operate, it would give Ameritech an automatic price advantage over its competitors. However, the Commission balances this concern with the equal concern that if CLECs do not pay reasonable costs for NRCs, it will give CLECs an advantage over Ameritech and other facilities-based providers that perform their own activities associated with NRCs. Additionally, the Eighth Circuit language recited by Ameritech supported the court's vacating of

[89] *IUB3* at 750.

the FCC rule requiring TELRIC pricing. That action has since been stayed and the U.S. Supreme Court has granted *certiorari.*

Accordingly, the Commission does not accept Ameritech's argument that NRCs must be based on the systems Ameritech has actually put in place. It is reasonable to base NRCs on systems an efficient provider can reasonably implement using currently available technology.

Activity Times. Ameritech estimates longer activity times than the CLECs. Ameritech developed its activity times based on the observations and experience of its subject matter experts (SMEs). Ameritech SMEs, in some instances, had performed time and motion studies. The CLECs developed activity times based on input from a panel of experts. Underlying support for their determinations was not presented. There were no other positions presented for activity times. The Commission determined that Ameritech's activity times are reasonable to use in determining forward-looking NRCs.

Ameritech estimated longer activity times than the CLECs and greater proportions of manual processing than the CLECs. Labor rates were not significantly different between the parties. The frequency with which Ameritech's longer activity times take place, however, depend on the Commission's corresponding decision on fall-out rates where time spent is also a key component.

Ameritech obtained and presented AT&T's Task Oriented Cost ("TOC") studies, which it asserted support of the reasonableness of its proposed activity times. The TOC study exhibit was four pages long and included only four types of installations: DS-1 loops, DS-3 loops, DS-1 interofffice transport, and DS-3 interoffice transport. It did not include a study of Plain Old Telephone Service (POTS) installations.

Ameritech argued that the TOC studies supported its time estimates. The CLECs argued that this proceeding is expressly limited to an examination of the rates that Ameritech should offer for UNEs and not just any ILEC. The CLECs further argued that the TOC studies were outdated AT&T studies from Oklahoma and California, and that they are based on assumptions, methods, inputs, and estimates completely foreign to the forward-looking cost environment in place today. The CLECs further argued that Ameritech and new entrants are working continuously on ordering processes and measurements, and these change almost daily. The CLECs asserted that the old AT&T TOC studies have little, if any, probative value.

Notwithstanding the CLECs' arguments, the Commission finds the AT&T TOC studies presented by Ameritech were prepared based on long-run incremental cost (LRIC) principles. They were prepared in 1997. Ameritech's base year for its costs in this case is 1998. By comparison, the TOC studies are not outdated. In addition, the CLECs used comparisons to systems operated by other companies in other states to support their fall-out rates, as will be discussed below. There is no evidence indicating that the data developed in other states regarding the time it takes to perform an activity would not be relevant in Wisconsin. It is reasonable to use data developed in other states for evaluating activity times. Accordingly, the Commission finds Ameritech's activity times are better supported than the CLECs activity times, and therefore are reasonable for developing forward-looking NRCs.

Fall-out rates. Fall-out is the percentage of service orders that require manual intervention to correct and allow the order to be electronically processed. Flow-through, on the other hand, is the percentage of service orders that are completed without manual intervention. By definition, the flow-through rate plus the fall-out rate equal 100 percent. Fall-out only

applies to mechanized processes. If a process is designed to be totally manual, the fall-out rate would be 100 percent. The CLECs proposed a two percent end to end fall-out rate. Ameritech based its confidential fall-out rates on its forecast of mechanization in next three years.

The Commission accepts portions of the CLECs' and Ameritech's proposals, while rejecting the rest. The discussion of which assumptions the Commission accepts or rejects is broken down into the following decision points including different fall-out rates for: (1) Stages of Processing; (2) Initial Receipt of an Order; (3) Number of Orders Necessary for UNE-P; (4) Provisioning-CO Cross Connects-IDLC and UDLC Technologies; (5) Provisioning-Field Work-Dedicated Inside Plant and Dedicated Outside Plant (DIP and DOP) Technologies; (6) Design; and (7) Transport.

(1) Stages of Processing

The CLECs proposed to use a 2 percent end-to-end fall-out rate. Ameritech proposed different fall-out rates at various stages of the ordering and provisioning processes.[90] For example, Ameritech uses different fall-out rates for the initial receipt of an order and for the provisioning of an order. The Commission finds that Ameritech's method of using different fall-out rates for different stages of the ordering and provisioning processes is reasonable in determining forward-looking NRCs.

The initial receipt of an order at the electronic ordering interfaces includes front end edits to identify service order errors to be resolved by Ameritech or returned to the CLEC. Provisioning involves determining whether the customer is an existing customer with facilities or whether changes or additions to facilities are necessary for that customer, and the scheduling and

[90] Ameritech's rates are confidential.

implementing those changes and additions, if necessary. The design process requires facilities databases to be accessed to determine if facilities are or can be made available. The design process also includes Ameritech's engineering organization to determine the appropriate facilities to use when new facilities are needed. Each of the processes is distinctly different from the other. The Commission finds that it is reasonable to assume that there will be different levels of fall-out at different stages within the ordering and provisioning processes. Nevertheless, as discussed below, the Commission does not accept Ameritech's estimates of fall-out for each of the different stages.

(2) Initial Receipt of an Order

The CLECs proposed a 2 percent fall-out rate for all stages of the process including the initial receipt of an order for all types of orders. Ameritech proposed a confidential fall-out rate for the initial receipt of an order based on the systems it currently has in place and the changes it expects to make in the upcoming three years. The Commission does not accept either the CLECs' or Ameritech's proposed fall-out rates for the initial receipt of an order. Rather, the Commission finds that fall-out rates for the initial receipt of an order should vary based on the complexity of the service being ordered.

The assumptions employed in the CLEC NRCM are: (1) a network engineered using forward-looking technologies and efficient processes; (2) an electronic ordering interface between the CLEC and ILEC that incorporates front-end edits to minimize service order errors and the ability for those errors to be returned electronically; (3) an efficient OSS environment with unpolluted databases to minimize fall-out; and (4) electronic provisioning where possible. The CLECs asserted these assumptions evaluate fall-out from a process perspective. The

CLECs' panel of experts asserted, based on these technologies, that existing OSS should experience fall-out rates of 1 percent when operated and maintained efficiently. Southwestern Bell Telephone (SWBT) is currently achieving this fall-out rate while operating and maintaining its Easy Access Sales Environment (EASE) system. The NRCM experts recognized, however, that while they believed a 1 percent fall-out rate is a reasonable objective that should be achieved in most situations, it might not be fully achieved in all instances and therefore proposed to use a fall-out rate of 2 percent. The CLECs asserted that if the OSS and associated databases are operated and maintained efficiently, then the ILEC's existing systems would have fall-out rates of about 2 percent. Therefore, the CLECs concluded that the forward-looking fall-out rate of 2 percent is much closer to the fall-out rate that would prevail in an efficient, competitive market.

Ameritech considered numerous factors when deciding whether to use mechanized or manual processes including, but not limited to, the expected number of customers, number of orders, forecasts, ease of mechanization, and degree of customization required on a regular basis. Ameritech asserted that the TOC studies discussed above supported its fall-out rates.

As discussed above, the TOC study is a four page exhibit covering four types of installations (DS1 loop, DS3 loop, DS1 interoffice transport, and DS3 interoffice transport) and making comparisons to similar kinds of installations by AT&T. The services covered by the TOC studies are complex services. There is not a study for simple DS0 – POTS.[91] Ameritech has developed separate NRCs for DS0, DS1, and DS3 services.

The Commission finds that it is reasonable to make a distinction between simple and complex services in determining reasonable forward-looking initial fall-out rates. Ameritech

[91] DS0 is equivalent to one voice channel. DS1 is equivalent to 24 voice channels. DS3 is equivalent to 672 voice channels.

identified the number of customers and the number of orders as factors when considering whether to mechanize a process or not. The EASE system discussed above is limited to resale orders for customers having 30 lines or less. Ameritech uses the distinction between simple and complex orders in its briefs without defining what the terms simple and complex mean. Testimony in this record revealed that an AT&T technical team member admitted in a prior proceeding that the 2 percent fall-out rate should only apply to 2-wire residence POTs service. Based on the evidence available, it is reasonable for the Commission to classify DS0 as a simple product and DS1 and DS3 as complex products.

Ameritech claimed that the EASE system only applies to resale orders and does not apply to UNE orders. Hence, the information regarding the fall-out rate achieved by the EASE system is not relevant. UNE combinations (UNE-Platform or UNE-P) are not technologically different from a resale service. For UNE-P, all elements to provide a service are already combined and are not allowed to be disconnected according to FCC rules.[92] As will be discussed in greater detail below, the Commission does not accept Ameritech's claim that two orders are necessary to process a UNE-P order, while only one order is necessary for a resale order. The Commission is not convinced that a different fall-out rate is necessary for UNE-P than for resale. The Commission determined that resale is a sufficiently analogous product to UNE-P to justify using the same end-to-end fall-out rates.

In addition to UNE-P DS0 services, there are also unbundled DS0 loops not in combination. Ameritech's performance measures show that when it designs an order type to flow through, it can achieve a 2 percent fall-out rate. The Commission finds it is reasonable to

[92] 47 C.F.R. § 51.315(b).

apply the same 2 percent fall-out rates for the initial receipt of orders for DS0 loops in the UNE-P and DS0 loops not in combination.

The TOC studies provide fall-out rates for DS1 and DS3 services, but not for DS0 services. The fall-out rates for DS1 and DS3 services (complex) are closer to Ameritech's fall-out rates than the CLECs' 2 percent fall-out rate. A 2 percent fall-out rate for DSO services (simple), preserves the distinction between fall-out rates for simple services and fall-out rates for complex services.

Accordingly, in computing forward-looking NRCs, the Commission concludes that it is reasonable to use a 2 percent fall-out rate for the initial receipt of DS0 orders, both in combination and not in combination, and to use Ameritech's confidential fall-out rates for the initial receipt of DS1 and DS3 orders. The Commission finds this will provide an incentive to Ameritech to clean up its databases so mismatches between databases do not occur. It will also provide an incentive to Ameritech to increase the kinds of orders that can initially be received and processed electronically, and effectively be as efficient as a provider would be required to be in a competitive marketplace.

(3) Number of Orders Necessary for UNE-P

Ameritech claimed two orders were necessary to process a UNE-P order, while only one order is needed for a resale order. According to the CLECs, the Carrier Access Billing System (CABS) supports a single order for a UNE-P order. The Commission agrees with the CLECs that the cost of NRCs for ordering UNE-P should be based upon a single order only.

Ameritech initially claimed that billing data for UNE-P could not be collected properly without creating a separate order for the loop and the port. The CLECs, however, produced

evidence that Ameritech's witness testified in another proceeding to the fact that the requirement for two service orders would be eliminated once the conversion to CABS is completed. Ameritech further claimed that there are some other downstream processing concerns, but did not provide any specific details. In docket 6720-TI-160, the Commission ordered Ameritech to convert to CABS for UNE-P by October 2001. In light of the benefits expected to be achieved by converting to the CABS billing system, the Commission finds that it is reasonable to assume a single order in determining the forward-looking cost of ordering UNE-P services.

(4) Provisioning-CO Cross Connects–IDLC/UDLC Technology

The CLECs asserted that CO cross connects should only fall to manual processing 2 percent of the time based on technologies that allow electronic processing. Ameritech asserted that manual CO cross connects are necessary 100 percent of the time. The Commission does not agree with either party and further finds that, in determining forward-looking NRCs, 100 percent manual CO cross connects are reasonable for stand alone unbundled loops, while 2 percent manual cross connects are reasonable for loops in combination.

The CLECs based their 2 percent rate for manual cross connects on the technology of using a Digital Cross Connect System/Electronic Digital Signal Cross Connect (DCS/EDSX) technology. This technology is capable of remote network grooming, reconfiguration and provisioning capabilities, automatic failure restoration, enhanced performance monitoring, built-in testing, and remote test access capabilities. The CLECs asserted a forward-looking cost model should incorporate the efficiencies of automated Intelligent Network Elements (SONET[93],

[93] Synchronous Optical Network (SONET).

GR-303[94] IDLC, DCS/EDSX, etc.) that provide for maximum electronic flow through for provisioning of orders. In effect, unbundled loops could be electronically groomed apart from other Ameritech loops, and that the signals could be passed electronically to the appropriate CLEC instead of requiring manual activity to provision unbundled loops.

Ameritech claimed that it cannot unbundle loops that terminate on any type of Integrated Digital Loop Carrier (IDLC) system. Ameritech further claimed that the least cost, most efficient alternative is to convert the integrated loops to universal digital loop carrier (UDLC) or copper feeder loops, thus establishing a presence on the main distribution frame (MDF). When this is done, Ameritech said there is a 100 percent probability that there will be manual intervention.

The FCC is studying this issue. The FCC discusses this issue in its *UNE Remand Order* as follows:

> …carriers need unbundled subloops to serve subscribers currently served by IDLC loops…In such cases, competitors generally cannot access IDLC loops at the incumbent's CO. [95]

In that order, the FCC refers to a MCI WorldCom white paper similar to one presented as an exhibit in this proceeding. The FCC discussed each of the methods proposed in the MCI WorldCom white paper and concluded that despite their future potential, these methods do not now significantly reduce the CLECs' need to pick up IDLC customers' traffic before it is multiplexed.[96] The FCC refers to the *Local Competition Order* where it found that it is

[94] Telecordia's "Generic Requiement-303" for Next Generation Integrated Digital Loop Carrier (GR-303).

[95] Third Report and Order and Fourth Further Notice of Proposed Rulemaking in the Matter of the Local Competition Provisions of the Telecommunications Act of 1996), FCC 99-238, (Nov. 5, 1999), (UNE Remand Order) par. 217.

[96] UNE Remand Order at n. 417.

technically feasible to unbundle IDLC delivered loops by using a multiplexer to separate the unbundled loops prior to connecting the remaining loops to the switch,[97] but concedes that in the three years since that order, such methods have not proven feasible. Competitors are not yet able to economically separate and access IDLC.[98] The FCC has a proceeding currently underway in which it is continues to investigate this issue.

Accordingly, this Commission cannot conclude that the electronic processing proposed by the CLEC can be implemented based on current technology. The Commission finds, for a stand alone unbundled loop order, that it is reasonable to use 100 percent manual CO cross connects in determining forward-looking NRCs. This will need to be reevaluated as technology advances to determine if it becomes technically feasible to electronically groom unbundled loops instead of using manual cross connects.

Given the technology, UNE-P orders should be treated differently than stand alone unbundled loops. Ameritech's broadband service offering is able to electronically groom broadband service to the appropriate CLEC. The Project Pronto architecture is also used to provide retail voice grade services. In addition, older forms of IDLC are also used to provide retail voice grade services. Where UNE-P does not require disconnection and reconnection of the loop, the electronic IDLC technology is used to provision UNE-P. Accordingly, the Commission finds that it is reasonable to assume a 2 percent manual cross connects for UNE-P when determining the forward-looking NRC.

[97] Local Competition Order at par. 384.

[98] UNE Remand Order at n. 418.

(5) Provisioning-Field work--Dedicated Inside Plant and Dedicated Outside Plant (DIP and DOP)

Dedicated Inside Plant (DIP) and Dedicated Outside Plant (DOP) facilities allow for rapid activation or deactivation of services at an end user location without the need for physical disruption of the facility because, with DIP and DOP, physical connections remain in place and only a command from the OSS is necessary to activate or deactivate the service. It provides immediate service activation to the next customer at that premise. Accordingly, no manual field work is necessary for provisioning when DIP and DOP is in place. The CLECs proposed a 100 percent level of DIP and DOP. Ameritech proposed a confidential percentage of DIP and DOP. The CLECs later modified their proposal to 95 percent DIP and DOP, as described below. The Commission accepts the CLECs' modified proposal.

Ameritech asserted that its confidential percentage of DIP and DOP reflects its actual network. Ameritech asserts that it would have to grossly overbuild its network to attain 100 percent DIP and DOP. Ameritech claimed that an assumption of 100 percent DIP and DOP requires an accurate forecast of future demands.

The CLECs argued that Ameritech has modeled physical disconnection and reinstallation of service in computing NRCs. They argue that it would create a chance for service failure or degraded service to the end-user customer, if Ameritech actually did what is assumed for cost study purposes. Alternatively, DIP and DOP processes allow for rapid activation or deactivation of services at an end user location without the need for physical disruption of the facility. The CLECs estimated that likely 90 percent or more of all UNE-Loop orders are for migrations of existing service. The remaining 10 percent would be new loops, but not all of these loops would

require field work given Ameritech's assumptions for DIP and DOP. The bottom line is that even using Ameritech's assumptions, but accounting for the migration of existing lines, Ameritech should assume a DIP and DOP percentage of around 95 percent.

The Commission accepts the CLECs' position that DIP and DOP is an efficient forward-looking technology. The Commission finds that 95 percent DIP and DOP is a reasonable assumption to use in developing forward-looking NRCs.

(6) Design

Ameritech's model does not include any difference between an existing CLEC customer migration and initial service provision to a new CLEC customer. The CLECs proposed development of separate rates for migrations versus initial service provision to a new customer. The difference between migrations and initial service provision will already reflect less field work due to the DIP and DOP technology as discussed above. However, there are also other costs associated with design that will be unnecessary for migrations, as the service would already be in place. The Commission accepts the CLECs' proposal for creating a separate rate for migrations that does not include design costs.

When Ameritech provisions a new service for a retail customer, Ameritech incurs the upfront cost of establishing that customer's service. When that customer migrates to a CLEC, Ameritech is not required to perform any field or design work to complete the migration. As such, if Ameritech charges for field or design work associated with migrating customers to CLECs, it would be charging for work it does not perform for the CLEC. The Commission concludes that in developing forward-looking NRCs it is reasonable to use a separate rate for migrations versus initial installations, and to not include design costs in migrations.

(7) Transport

The CLECs' model for NRCs for transport assumes only ordering activity. Ameritech includes activity from special access/private line service personnel. The Commission accepts Ameritech's inclusion of costs associated with special access/private line service personnel, provided the study is modified to reflect Ameritech's actual usage of COSMIC frames.

The CLECs' model is based on SONET ring technology and a low profile, COSMIC punch down block MDF for terminations in the CO. These technologies provide intelligent processor-controlled network elements that require little or no human intervention for transport provisioning and maintenance activities. Thus, the CLECs contend that transport cost should reflect ordering capacity only.

Ameritech developed NRCs for transport facilities of various capacities. The lowest was a DS1 capacity. The highest was an OC-48[99] capacity. Ameritech's model reflects activities from special access/private line service personnel reflecting the similarity between unbundled transport and special access and private lines.

The frequency of COSMIC frame use was discussed in the context of line splitter placement. Ameritech asserted that COSMIC frames are *not* the forward-looking technology choice for SBC/Ameritech, and are simply not advantageous in the current environment. Significantly, the CLECs' own witness, Mr. Sidney Morrison, conceded that Ameritech has COSMIC frames in only 13 of its COs and that local exchange carriers continue to purchase two-sided main distribution frames.

[99] Optical Carrier Level 48 (for SONET) (OC-48).

The Commission is not convinced that the technology assumptions proposed by the CLECs for transport is a forward-looking efficient technology that can be implemented today based on available technology. Accordingly, the Commission rejects the CLECs' technology assumptions. The Commission finds it is reasonable that Ameritech's cost study should be revised to reflect an achievable level of electronic processing by incorporating the extent to which Ameritech has COSMIC frames deployed.

Proportion of Manned COs. Ameritech proposed to apply its confidential percentage of unmanned COs, which is based on its actual number of unmanned COs. When a CO is unmanned, it results in travel costs for CO work being included in NRCs. The CLECs proposed a rate of 20 percent unmanned COs based on nationally available information. The Commission accepts Ameritech's proposal.

The modelers of the NRCM did not take any Wisconsin-specific information into account. Instead, the CLECs utilize a national standard of 20 percent of unmanned COs. The CLECs did not provide any factual support why the national standard percentages used in the NRCM are appropriate for Wisconsin. Geography and density vary from state to state making it important to consider Wisconsin-specific information in determining the number of unmanned COs. Accordingly, it is reasonable to use Ameritech's confidential percentage of unmanned COs in determining forward-looking NRCs.

Jobs per Visit to an Unmanned CO. Ameritech proposed a confidential number of jobs per visit based on its actual experience. The CLECs proposed using four jobs performed per visit. More jobs per visit would spread travel and set up costs over a greater number of jobs

reducing the cost per job. The Commission accepts Ameritech's confidential number of jobs per visit.

By assuming four separate tasks on each visit, in effect, the CLECs assume that there will be three other job orders submitted simultaneously for that unmanned CO and that the same technician is capable of completing all four orders. The CLECs did not consider evidence from Ameritech's network in its proposal to use four jobs per visit. Geography and density vary from state to state making it important to consider Wisconsin-specific information.

While the Commission agreed that orders ought to be grouped to be efficient, it could not conclude that it would be practical for UNEs. The CLECs clearly would not want their orders delayed until the orders could be grouped. Accordingly, the Commission did not accept the CLECs' proposal of four jobs per visit, but accepted Ameritech's proposed confidential number of jobs per visit.

Computer Service Order Processing Costs. Ameritech argued that additional costs should be added to NRCs for costs associated with computer processing costs for service orders. The CLECs argued that these costs were already included in the mark-up for joint and common costs. The Commission accepts the CLECs' position that these costs are already included in the mark-up for joint and common costs.

In its determination of an appropriate mark-up for joint and common costs, the Commission did not accept any of the CLECs' proposed reductions that asserted that costs were double counted. Computer costs are included in the accounts that developed the joint and common costs. The Commission concludes it is reasonable to assume computer service order processing costs are included in the mark-up for joint and common costs.

One Time Computer Expense. Ameritech argued that additional costs should be added to NRCs to amortize past one time computer set up costs. The CLECs argued that these costs were already included in the mark-up for joint and common costs. The Commission accepts the CLECs' position that these costs are already included in the mark-up for joint and common costs.

Computer costs are included in the accounts that developed the joint and common costs. Developing mechanized systems for OSS is an ongoing process which is already recorded in these accounts. Ameritech has been and will continue to develop mechanized OSS systems. The Commission concludes it is reasonable to assume one time computer expenses are included in the mark-up for joint and common costs.

Disconnection costs. Ameritech argued that it should collect disconnection charges up front at the time of connection. The CLECs argued that disconnection charges should be collected at the time of disconnection. The Commission agrees with the CLECs that disconnection costs should be collected at the time of disconnection.

Ameritech argued that it charges disconnection costs up front for its own retail customers, so therefore it should do the same for its wholesale customers. The CLECs argued that wholesale services are different as the wholesale customer has an ongoing relationship with Ameritech. Wholesale providers are required to obtain certification to be a wholesale customer. The CLECs argued that their retention rates could vary from those of Ameritech retail customers. The CLECs also argued that disconnection involves only an electronic process based upon DIP and DOP discussed above. For these reasons, the Commission determined that it is reasonable to collect disconnection charges at the time of disconnection based on electronic processing only.

Other Rate Structure Issues. Ameritech proposed three new NRCs called an administrative charge, a design and CO connection charge, and a customer connection charge, in addition to its former initial service order charge and line connection charge. The CLECs argued that all the NRCs should be covered by a single charge and it is not clear if the CLECs realize new charges were being proposed. The Commission determined that Ameritech should not be allowed to add additional NRCs until it makes a clear showing that the charges are indeed appropriate and how these charges would be applied.

The additional charges proposed for DS0 services were $160.49 for the administrative charge per order; $126.12 for the CO connection charge per circuit; and $203.62 for customer connection charge per termination, in addition to the proposed $6.44 initial service order charge and $28.51 line connection charge. The Commission views these charges as being very high in relation to the retail rates for POTS. In addition, it is not clear why, and under what circumstances, these additional charges would apply. Accordingly, the Commission finds these additional three charges are not reasonable.

List of Services. The CLECs proposed a list of NRCs for services they wish to have unbundled. In particular, the CLECs proposed different rates for 4-wire and 2-wire loops. The CLECs also proposed that Integrated Services Digital Network/Basic Rate Interface (ISDN/BRI) should have the same rate as POTs. Ameritech proposed separate rates for DS0, DS1, and DS3. Ameritech did not address or discuss the CLECs' variations. The Commission has made a distinction in this Order between simple and complex products based on information available for DS0, DS1 and DS3 products. Accordingly, the Commission finds that Ameritech's DS0, DS1 and DS3 service categories are reasonable. However, the Commission further finds that

Ameritech should create a different NRC for the UNE-P than stand alone unbundled loops. In addition, the Commission also finds that Ameritech should create separate NRCs for migrations and new installations. As the Commission is requiring Broadband service to be an end to end unbundling of Project Pronto, an NRC consistent with a loop already in combination should apply to the Project Pronto end to end product as well.

Model Selection. There were competing cost models for NRCs. However, both parties agreed that the calculations of costs should include identification of the tasks involved, and a determination of the activity times and the probability that an activity will occur. Accordingly, there do not appear to be any policy differences in the method of calculation between the two models, only in the assumption used to make those calculations. Since the Commission determined that Ameritech activity times are reasonable, it will be easier to implement the Commission's decisions by incorporating its adjustments into the Ameritech model. Accordingly, the Commission's adjustments should be incorporated into and recalculated through the Ameritech model.

Implementation Issues

Tariffs. The Commission determines that Ameritech must file UNE tariffs that are temporarily available to competitors that have filed a request with Ameritech for interconnection or access to UNEs under 47 U.S.C. §§ 251 and 252. These tariffs are available to the requesting utility until the negotiation or arbitration process has been completed.

Under Wisconsin law, utilities (even price-regulated utilities) must tariff. Wis. Stat. §§ 196.219(2m) and 196.196(2)(a). In docket 05-TI-138[100] the Commission ordered tariffing of UNEs in order to promote competition. It reiterated this stand in the SGAT case.[101]

Since that time, two district court cases (Michigan[102] and Ohio[103]) have held that companies cannot be required to tariff all of their UNEs, because it allows companies to bypass the federal party-specific mediation/arbitration process and "buy off the rack" from the tariffs. Therefore, those courts found, state laws requiring full tariffing violate 47 U.S.C. § 251(d)(3)[104] because allowing such "off the rack" buying dispenses with interconnection agreements and, therefore, substantially prevents the implementation of the federal mediation/arbitration process.

In the OSS case, the Commission distinguished the OSS proceeding from these court cases, finding that it could require tariffing of UNE-Ps and EELS. It held that requiring such tariffing could not be interpreted as substantially preventing implementation of the Telecommunications Act since the two UNEs together "cannot create a complete regime of state-ordered tariffed interconnection offerings that bypass §§ 251 and 252 altogether."[105]

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[100] Investigation of the Appropriate Standards to Promote Competition in the Local Exchange Telecommunications Market in Wisconsin, issued July 3, 1996.

[101] Matters Relating to Satisfaction of Conditions for Offering InterLATA Service, docket 6720-TI-120, issued December 12, 1996 (First SGAT Decision).

[102] Verison North v. Michigan PSC, 140 F. Supp.2d 803 (D. Mich. 2000).

[103] MCI v. GTE, 41 F.Supp.2d 1157 (D. Ore. 1999).

[104] U.S.C. § 251(d) (3) Preservation of State access regulations. In prescribing and enforcing regulations to implement the requirements of this section, the Commission shall not preclude the enforcement of any regulation, order, or policy of a State commission that -

(A) establishes access and interconnection obligations of local exchange carriers;

(B) is consistent with the requirements of this section; and

(C) does not substantially prevent implementation of the requirements of this section and the purposes of this part.

[105] Investigation into Ameritech Wisconsin Operational Support Systems, docket 6720-TI-160, issued September 25, 2001.

Ameritech argues that the Commission can't require tariffing, that the exclusive means of implementing the decisions from this case is through interconnection agreements. The CLECs argue that Ameritech should be required to conform its existing tariffs to the outcome of this proceeding.

The Commission determined that requiring unrestricted tariffing of all UNEs substantially prevents the implementation of the federal mediation/arbitration process because it allows utilities to bypass that process entirely. However, the Commission is concerned about impeding the development of competition. Therefore, the Commission adopts an approach that speeds access to the market, but does not allow bypass of the federal process. Ameritech is required to file UNE tariffs in addition to the tariffs already required under the OSS order. These additional tariffs will be available to competitors that have requested interconnection or access to UNEs under the §§ 251/252 process. The prices in these tariffs are to be available to such competitors while the negotiation/arbitration process is underway. Such an approach does not substantially prevent implementation of the federal process because it requires participation in that process as a prerequisite. At the same time, it supports quicker competitive entry. This order does not change the requirement in the OSS order that tariffs be filed for UNE-P and EELS. Those tariffs will meet the tariffing requirement in this order, but are not time limited as are the other tariffs ordered herein.

Other. The Commission decided to modify several assumptions and inputs to Ameritech's TELRIC studies. These modifications will result in lower rates for UNE products and services than those proposed by Ameritech. To implement its decision, the Commission

finds it reasonable to order Ameritech to rerun and file its TELRIC studies and resulting UNE rates and draft tariffs in accordance with this decision within 60 days after its issuance.

As discussed above, the Commission adopts the CLECs' Collocation Cost Model (CCM), as adjusted, to develop collocation rates. To implement this decision, the Commission orders Ameritech to provide the CLECs with revised collocation data within 20 days of the issuance of this decision. The CLECs are ordered to rerun and file their CCM, as adjusted, within 20 days thereafter. The CLECs should simultaneously serve the parties with its compliance filing, subject to applicable confidentiality agreements between the parties. This leaves Ameritech 20 days before the compliance filing due date to develop draft tariffs based on the adjusted CCM.

Ameritech experienced difficulties in performing sensitivity analyses on loop costs as requested by staff during this docket. Consequently, the Commission is concerned about ensuring that Ameritech's models are accurately rerun based on the decisions herein. In particular, the base case in Ex. 125 did not match Ameritech's initial proposed rates. The base case needs to match Ameritech's initial proposed rates in order to ensure that no adjustments other than those required by the Commission are made. It is reasonable to require Ameritech to submit the rates for the base case before any adjustments are added to ensure that only the Commission's required adjustments are included in the rerun of the model.

The Commission requires Ameritech to make a compliance filing reflecting the adjustments required herein. In light of errors Ameritech previously made when rerunning its model, it is reasonable to require Ameritech to provide intermediate results after each significant Commission adjustment to make it easier to evaluate the accuracy and reasonableness of the compliance filing.

In preparing its compliance filing, after correcting the base rate Ameritech should run just the fill factor adjustments and provide the resulting rates. Then, after the fill factor adjustments, the cable gauge adjustment should be added and the resulting rates should be provided. These results would include both the fill factor and the cable gauge adjustments. Additional adjustments should be made in the same manner.

The other significant adjustments for which intermediate results should be provided in a cumulative sequence are: (1) the revised materials prices including the new contract and discounts; (2) the revised maintenance factors; (3) the revised depreciation rates; and (4) the incorporation of IDLC technology. Finally, all the remaining adjustments would be included in a single final adjustment run. Again, this will assist the Commission in evaluating the accuracy of the compliance filings.

The Commission is aware that implementing UNE rates in Michigan and Illinois was both difficult and time consuming. The Commission wants to avoid similar problems in Wisconsin. Delays in implementing this order will delay local competition and any potential entry by Ameritech into the interLATA toll market.[106] The Commission has attempted to remove incentives for delay by making rates developed through application of the methodology established in this order effective 60 days after the issuance of this order; that is, the compliance filing due date. If for any reason final rates are not developed by that time, any difference between the existing rates and the final rates will be subject to refund or true-up to the final rates' effective date; that is, the compliance filing due date.

[106] Nondiscriminatory access to cost based UNEs is included in the 14-point checklist found in 47 U.S.C. § 271.

The Commission will determine whether the compliance filing and draft tariffs are reasonable and in accordance with this order. Accordingly, the Commission retains its jurisdiction.

To the extent that existing interconnection agreements between Ameritech and competitors have change of law provisions, the Commission views this Final Decision as establishing a change of law.

Order

1. This order is effective upon mailing.

2. Ameritech is directed to provide the CLECs with revised collocation data within 20 days of the issuance of this decision. The CLECs are directed to rerun and file their Collocation Cost Model (CCM), as adjusted, within 20 days thereafter. Further, they are directed to simultaneously serve the results on the parties, subject to confidentiality agreements.

3. Ameritech is directed to offer certain UNE products and services as set forth in this decision, and to rerun and file its TELRIC studies, the resulting UNE rates, and draft tariffs, all in accordance with this decision within 60 days of its issuance. Further, they are directed to simultaneously serve the parties with the compliance filing, subject to confidentiality agreements.

4. The final rates determined through application of the methodology established in this order shall become effective 60 days after the order's issuance. If for any reason final rates are not developed by that time, any difference between the existing rates and the final rates will be subject to refund or true-up to the final rates' effective date.

5. Ameritech is directed to submit additional cost information concerning line splitter availability and OSS revisions for ordering it, as resolved in the AT&T/Ameritech Arbitration Award, within 60 days of the issuance of this order.

6. Ameritech is directed to file cost studies and explain the basis for developing forward-looking costs for loop qualification before processing any charge for that service.

7. Jurisdiction is retained.

Dated at Madison, Wisconsin, _____

By the Commission:

_____
Lynda L. Dorr
Secretary to the Commission

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Attachment: Dissenting Opinion

See attached Notice of Appeal Rights

Notice of Appeal Rights

Notice is hereby given that a person aggrieved by the foregoing decision has the right to file a petition for judicial review as provided in Wis. Stat. § 227.53. The petition must be filed within 30 days after the date of mailing of this decision. That date is shown on the first page. If there is no date on the first page, the date of mailing is shown immediately above the signature line. The Public Service Commission of Wisconsin must be named as respondent in the petition for judicial review.

Notice is further given that, if the foregoing decision is an order following a proceeding which is a contested case as defined in Wis. Stat. § 227.01(3), a person aggrieved by the order has the further right to file one petition for rehearing as provided in Wis. Stat. § 227.49. The petition must be filed within 20 days of the date of mailing of this decision.

If this decision is an order after rehearing, a person aggrieved who wishes to appeal must seek judicial review rather than rehearing. A second petition for rehearing is not an option.

This general notice is for the purpose of ensuring compliance with Wis. Stat. § 227.48(2), and does not constitute a conclusion or admission that any particular party or person is necessarily aggrieved or that any particular decision or order is final or judicially reviewable.

Revised 9/28/98

CHAIRPERSON AVE M. BIE
DISSENTING OPINION
6720-TI-161, Issues 23 and 24
March 19, 2002

Unbundling of Project Pronto

Commissioners Mettner and Garvin have decided that Ameritech must unbundle Project Pronto. In order to get to that decision, the majority is requiring Ameritech to make Project Pronto available to the CLECs as a UNE-P (on an "end-to-end" basis). Because I believe that the requirements of 47 C.F.R. § 51.319 are not met and, alternatively, because I believe that the "impair" test of 47 U.S.C. § 251(d)(2)(B) and 47 C.F.R. § 51.317 are not met, I respectfully dissent from this portion of the Commission's Final Decision.

47 C.F.R. § 51.319 rule limits the obligation of an ILEC to unbundle packet switching facilities. Such unbundling is not required unless all of four conditions are met. I will discuss each condition and whether it has been satisfied in order.

Condition 1 requires that the ILEC has deployed digital loop carrier systems or has deployed any other system in which fiber optic facilities replace copper facilities in the distribution system. The record does not support a finding that this condition has been satisfied. Ameritech characterizes Project Pronto as an overlay network. On the record before us, I agree.

Ameritech is not planning a wholesale replacement of its copper facilities, although some new installations will be fiber. There is no need to unbundle Project Pronto in order to give CLECs functionalities which they now enjoy but would be lost if the copper network was being replaced by packet switching facilities. [1]

This certainly could change. And, on a case by case basis, a CLEC would be free to attempt to establish that Ameritech is replacing copper with fiber in one or more locations.

Condition 2 requires that there be no spare copper loops capable of supporting the DSL services the requesting carrier seeks to offer. Like with condition 1, the record does not support a finding that there would be no copper loops available capable of supporting DSL if Project Pronto were deployed. Like with condition 1, on a case by case basis, the CLECs are free to come in and proved that they are not able to provide DSL because of the unavailability of copper loops. But, the Commission cannot find that there are no spare copper loops capable of supporting DSL services on an Ameritech system-wide basis.

[1] Commissioner Mettner stated at our open meeting discussion that Project Pronto is "designed" to replace copper facilities. Our concern, however, should be with the reality today; a CLEC can always come back to the Commission should replacement actually come to pass.

Condition 3 requires that the ILEC has not permitted a requesting carrier to deploy a DSLAM at a remote terminal, pedestal or environmentally controlled vault or other interconnection point, nor has the requesting carrier obtained a virtual collocation arrangement at these sub loop interconnection points. Ameritech has committed to allow DSLAM collocation at all of its existing remote terminals. Project Pronto has not been deployed yet. We cannot conclude that Ameritech will violate this commitment and not permit deployment by CLECs of DSLAMs at remote terminals or other interconnection points.

Under the fourth, and final, condition, the ILEC has to have deployed packet switching for its own use. Ameritech argues that it has not deployed packet switching for its own use because it does not provide DSL at retail; it is AADS which will do so.

I am not prepared to conclude that the phrase "for its own use" does not include Ameritech's use of Project Pronto, if only to offer, at wholesale, of the Broadband Service product that Ameritech is offering to CLECs in place of unbundling Project Pronto elements. However, since all four conditions would have to be satisfied in order to require the unbundling of packet switching facilities, we do not have to decide whether Ameritech will be using Project Pronto for its own use, because the other conditions are not met.

Our treatment of these issues could stop here, since the four conditions for unbundling packet switching facilities are not met. Nevertheless, we can proceed, in the interest of being comprehensive, to consider whether the absence of Project Pronto would impair the ability of CLECs to offer their desired services. Even if the four packet switching conditions were met, we would still have to find that the "impair" test were satisfied.

Under 47 U.S.C. § 251, a state commission looks to see if failure to provide access to a network element would impair the ability of a CLEC to provide services. 47 C.F.R. § 51.317 of the FCC's rules provides five factors for state commissions to consider in determining whether the impair test has been met: timeliness, quality, ubiquity, cost, and impact on network options. Generally speaking, whether a CLEC is impaired depends on whether a lack of access would materially diminish the ability to provide services. On the record in this case, Ameritech's deployment of Project Pronto would not interfere with the ability of CLECs to offer DSL services. This is for the same reasons that the four conditions under Rule 317 have not been satisfied; Ameritech is not replacing its ability to provide unbundled access to facilities necessary to provide DSL by CLECs.[2]

[2] I agree, also, with Ameritech's statement that CLECs may actually have greater ability to deliver such services through Ameritech's Broadband Service offering. The FCC has stated as much in the Project Pronto order.

The CLECs note that the Project Pronto order is limited in time. Because of this or for any other reason the facts change, the CLECs are free to come to this commission for greater access to Project Pronto facilities.

The majority glosses over each of the legal requirements for unbundling discussed by me above. Following the equally sketchy decision of the Illinois Commerce Commission, the majority has determined that the whole is greater than the sum of its parts. Assuming, without deciding, that the standards for unbundling packet switching are not satisfied, my colleagues reason that by requiring Ameritech to offer Project Pronto in its entirety, those important issues can be disregarded. I fail to see the logic in this reasoning. If the CLECs have not made the case, and they have not, that they are entitled to any packet switching, the Commission cannot properly grant them access to all packet switching, merely by treating the whole as a single loop.

_____

Ave M. Bie
Chairperson

AMB:sp:K:\amb\general\dissenting opinion 6720-TI-161

Appendix A

In order to comply with Wis. Stat. § 227.47, the following parties who appeared before the agency are considered parties for purposes of review under Wis. Stat. § 227.53.

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Index of Acronyms

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